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WEAPONS CONTROL SYSTEMS CAREER LADDER, AFSC 321X2.(U)
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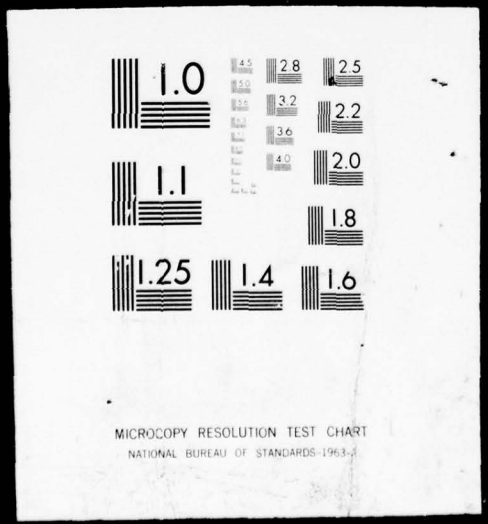
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OCCUPATIONAL SURVEY REPORT,
ELECTRONIC PRINCIPLES

142 p.

WEAPONS CONTROL SYSTEMS
CAREER LADDER,
AFSC 321X2,

AFPT-90-30X-3222
30 SEPTEMBER 1977

OCCUPATIONAL SURVEY BRANCH
USAF OCCUPATIONAL MEASUREMENT CENTER
LACKLAND AFB TEXAS 78236

TABLE OF CONTENTS

PREFACE

This report presents a summary of the results of a detailed Air Force Electronic Principles Survey of the Weapons Control Systems Specialty, AFSC 321X2.

The Electronic Principles Inventory (EPI) was developed by Major Thomas J. O'Connor and Mr. Hendrick W. Ruck and the survey data were analyzed by Captain Jerry M. Barucky. All are members of the Occupational Survey Branch, USAF Occupational Measurement Center, Lackland AFB, Texas.

Computer programs for analyzing the data were designed by Dr. Raymond E. Christal, Occupational and Manpower Research Division, Air Force Human Resources Laboratory (AFHRL), and were written by the Project Analysis and Programming Branch, Computational Sciences Division, AFHRL.

Distribution of this report is made upon request to the USAF Occupational Measurement Center, attention of the Chief, Occupational Survey Branch (OMY), Lackland AFB, Texas 78236.

This report has been reviewed and is approved.

JAMES A. TURNER, JR., Colonel, USAF
Commander
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ELECTRONIC PRINCIPLES OCCUPATIONAL SURVEY REPORT
WEAPONS CONTROL SYSTEMS CAREER LADDER
AFSC 321X2

INTRODUCTION

This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned to Weapons Control Systems Specialty (AFSC 321X2). The data for this report were collected during the period April through June 1977.

This report describes: (1) development and administration of the survey instrument; and (2) electronic principles used by DAFSC 5-skill level personnel both CONUS and overseas and assigned to selected major commands.

DEVELOPMENT OF THE ELECTRONIC PRINCIPLES INVENTORY (EPI)

The EPI was developed by personnel from the Occupational Survey Branch who were well qualified in theoretical physics and electronics, as well as in task analysis and survey development. Over 300 maintenance personnel from SAC, TAC, ADC, MAC, and AFCS participated in the development of the inventory. Representing the five ATC training centers, electronics experts who averaged 12 years of maintenance experience and four years of electronic principles instruction experience spent several weeks refining the EPI. In addition, personnel at the Electrical Engineering Department of the USAF Academy and the Air Force Human Resources Laboratory were consulted during the development of the inventory.

The final version of the EPI used in this survey contained 1,257 items in 62 subject matter areas covering all electronic principles training given at the five ATC technical training centers. Table 1 lists the 62 subject areas.

ADMINISTRATION

The Electronic Principles Inventory was administered by mail to AFSC 32152 airmen worldwide. Responses from 224 individuals represented 13 percent of the total of all AFSC 32152 personnel. Table 2 shows the percentage distribution by major command of the survey incumbents.

TABLE 1

EPI SUBJECT AREAS

SEQUENCE OF SUBJECT AREAS	SUBJECT AREA TITLE	BEGINNING ITEM NUMBER	GPSUM PAGE NUMBER
1	MATHEMATICS	A1	2
2	DIRECT CURRENT AND VOLTAGE	A15	2
3	RESISTANCE	A24	2
4	MULTIMETER USES	B52	3
5	ALTERNATING CURRENT	B61	4
6	INDUCTORS AND INDUCTIVE REACTANCE	B67	4
7	CAPACITORS AND CAPACITIVE REACTANCE	C92	5
8	TRANSFORMERS	C128	6
9	MAGNETISM	C171	7
10	RCL CIRCUITS	D185	8
11	SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)	D229	10
12	FILTERS	D239	10
13	COUPLING	E261	11
14	SOLDERING	E273	11
15	RELAYS	E294	12
16	MICROPHONES	F314	12
17	SPEAKERS	F327	13
18	OSCILLOSCOPES	F342	13
19	SEMICONDUCTOR DIODES	G354	13
20	TRANSISTORS	G404	15
21	TRANSISTOR AMPLIFIERS	G428	16
22	SOLID-STATE SPECIAL PURPOSE DEVICES	H477	19
23	POWER SUPPLIES	H483	19
24	OSCILLATORS	H512	19
25	MULTIVIBRATORS	I539	20
26	LIMITERS AND CLAMPERS	I555	21
27	ELECTRON TUBES	I565	21
28	ELECTRON TUBE AMPLIFIERS AND CIRCUITS	J609	22
29	SPECIAL PURPOSE ELECTRON TUBES	J616	23
30	HETERODYNING, MODULATION, AND DEMODULATION	J632	23
31	AM SYSTEMS	K638	23
32	FM SYSTEMS	K666	24

TABLE 1 (CONTINUED)

EPI SUBJECT AREAS

SEQUENCE OF SUBJECT AREAS	SUBJECT AREA TITLE	BEGINNING ITEM NUMBER-	GPSUM PAGE NUMBER
33	NUMBERING SYSTEMS	K685	25
34	LOGIC FUNCTIONS	L695	25
35	BOOLEAN EQUATIONS	L708	26
36	COUNTERS	L733	27
37	TIMING CIRCUITS	M757	27
38	USE OF SIGNAL GENERATORS	M769	28
39	MOTORS AND GENERATORS	M779	28
40	METER MOVEMENTS	N808	29
41	SATURABLE REACTORS AND MAGNETIC AMPLIFIERS	N818	29
42	WAVESHAPING CIRCUITS	N834	30
43	SINGLE SIDEBAND SYSTEMS	0845	30
44	PULSE MODULATION SYSTEMS	0875	31
45	ANTENNAS	0914	32
46	TRANSMISSION LINES	P953	34
47	WAVEGUIDES AND CAVITY RESONATORS	P984	35
48	MICROWAVE AMPLIFIERS AND OSCILLATORS	P1034	37
49	REGISTERS	Q1110	39
50	STORAGE DEVICES	Q1117	40
51	DIGITAL TO ANALOG CONVERTERS	Q1126	40
52	PHANTASTRONS	Q1140	41
53	SCHMITT TRIGGERS	R1141	41
54	CABLE FABRICATION	R1144	41
55	INPUT/OUTPUT DEVICES	S1146	41
56	PHOTO SENSITIVE DEVICES	S1149	41
57	SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)	S1150	41
58	INFRARED	T1159	41
59	LASERS	T1186	42
60	DISPLAY TUBES	T1220	43
61	PROGRAMMING	U1234	43
62	DB AND POWER RATIOS	U1255	44

TABLE 2

COMMAND REPRESENTATION OF SURVEY SAMPLE

COMMAND	32152 (All shreds) PERCENT ASSIGNED	32152 (All shreds) PERCENT OF SAMPLE	32152 (Slick) PERCENT ASSIGNED	32152 (Slick) PERCENT OF SAMPLE	32152A PERCENT ASSIGNED	32152A PERCENT OF SAMPLE	32152C PERCENT ASSIGNED	32152C PERCENT OF SAMPLE
ADC		32	1	12	97	90	93	100
ATC		10	55	63	3	9	7	-
PACAF		8	-	-	-	-	-	-
TAC		36	29	25	-	-	-	-
USAFE		10	11	-	-	-	-	-
OTHERS		4	4	-	-	1	-	-
Total Assigned - 1613			94		336		44	
Total Sampled - 224			8		59		12	
Percent Sampled - 13%			9%		18%		27%	

TABLE 2 (CONTINUED)

COMMAND REPRESENTATION OF SURVEY SAMPLE

COMMAND	32152N		32152P		32152Q		32152S	
	PERCENT ASSIGNED	PERCENT OF SAMPLE	PERCENT ASSIGNED	PERCENT OF SAMPLE	PERCENT ASSIGNED	PERCENT OF SAMPLE	PERCENT ASSIGNED	PERCENT OF SAMPLE
ADC	-	-	3	8	-	-		-
ATC	5	25	5	8	1	10	2	6
PACAF	-	-	20	21	13	8		
TAC	95	75	48	37	61	61	97	94
USAFE	-	-	23	19	15	16		-
OTHERS	-	-	1	7	10	5	1	-
Total Assigned - 44			542		507		126	
Total Sampled - 4			62		61		18	
Percent Sampled - 9%			11%		12%		14%	

PRESENTATON OF RESULTS

Personnel responded "yes" or "no" to the 1,257 electronic principles questions as related to their present job. A Group Summary (GPSUM) computer printout is provided in the Appendix portion of this report. Page 1 of each (4A, 4B, 4C) GPSUM lists eleven of the thirty-three selected groups identified for this report. Pages 2-44 in each GPSUM show the percentage of the incumbents responding to the EPI items. The computer program results display the percent members answering "yes" to the subject area questions. The reader can locate a specific subject area by referring to the Appendix page number as listed in Table 1. For example, the Transformers area results are given on pages 6-7 of each GPSUM. The percentage of survey respondents indicating use of specific electronic principles ranged from high in areas such as direct current and voltage (p.2) and multimeter uses (pp.3-4) to low in areas such as single sideband systems (pp.30-31) and Lasers (pp. 42-43). Additional AFSC 321X2 data can be obtained upon request to the Chief, Occupational Survey Branch (OMY).

APPENDIX

TABULATION OF ELECTRONIC PRINCIPLES UTILIZATION DATA FOR SELECTED GROUPS
IN THE 321X2 CAREER FIELD.

REPORTS ON THE FOLLOWING GROUPS WERE REQUESTED

GROUP IDENTITY =	SPC051	ALL AIRMEN DAFSC (ALL SHREDS) 32152	CONTAINING	224	MEMBERS.
GROUP IDENTITY =	SPC052	AMN DAFSC (ALL SHREDS) 32152 STATIONED IN CONUS	CONTAINING	187	MEMBERS.
GROUP IDENTITY =	SPC053	AMN DAFSC (ALL SHREDS) 32152 STATIONED OVERSEAS	CONTAINING	37	MEMBERS.
GROUP IDENTITY =	SPC054	AMN DAFSC (ALL SHREDS)32152 ASSIGNED TO TAC	CONTAINING	82	MEMBERS.
GROUP IDENTITY =	SPC055	AMN DAFSC (ALL SHREDS) 32152 ASSIGNED TO ADC	CONTAINING	71	MEMBERS.
GROUP IDENTITY =	SPC056	AMN DAFSC (ALL SHREDS) 32152 ASSIGNED TO USAFE	CONTAINING	22	MEMBERS.
GROUP IDENTITY =	SPC057	ALL AIRMEN DAFSC (SLICK) 32152	CONTAINING	8	MEMBERS.
GROUP IDENTITY =	SPC058	AMN DAFSC (SLICK) 32152 STATIONED IN CONUS	CONTAINING	8	MEMBERS.
GROUP IDENTITY =	SPC060	AMN DAFSC (SLICK)32152 ASSIGNED TO TAC	CONTAINING	2	MEMBERS.
GROUP IDENTITY =	SPC061	AMN DAFSC (SLICK) 32152 ASSIGNED TO ATC	CONTAINING	6	MEMBERS.
GROUP IDENTITY =	SPC063	ALL AIRMEN DAFSC 32152A	CONTAINING	59	MEMBERS.

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
A	1	A1-01 IN YOUR PRESENT JOB, DO YOU USE INSTRUMENTS, SUCH AS METERS OR OSCILLOSCOPES, IN WHICH IT IS NECESSARY TO AMPLIFY OR ATTENUATE VOLTAGE, RESISTANCE, ETC., BY POWERS OF 10.	79	78	86	72	79	100	100	100	100	100	81	MATHEMATICS
A	2	A1-02 DO YOU USE PUBLICATIONS, SUCH AS A TECHNICAL ORDERS OR MAINTENANCE MANUALS, IN WHICH IT IS NECESSARY FOR YOU TO MULTIPLY OR DIVIDE BY A POWER OF 10 BEFORE YOU CAN APPLY THE INFORMATION FROM THE PUBLICATION IN A USEFUL WAY ON THE JOB.	41	43	30	33	46	50	88	88	100	80	46	
A	3	A1-03 DO YOU REARRANGE AND SOLVE FORMULAS OR EQUATIONS.	29	30	24	26	34	18	75	75	0	100	25	
A	4	A1-04 DO YOU CALCULATE THE SQUARE ROOT OF A QUANTITY.	11	12	3	9	10	0	75	75	0	100	10	
A	5	A1-05 DO YOU SOLVE FOR UNKNOWN QUANTITIES.	24	24	22	18	24	27	75	75	0	100	20	
A	6	A1-06 DO YOU CONVERT NUMBERS TO LOGARITHMS.	8	8	5	4	4	0	63	63	0	100	5	
A	7	A1-07 DO YOU USE LOGARITHM TABLES IN ANY TYPE OF CALCULATIONS.	9	10	5	5	7	0	63	63	0	100	7	
A	8	A1-08 DO YOU SOLVE QUADRATIC EQUATIONS.	10	11	5	6	11	5	38	38	0	60	14	
A	9	A1-09 DO YOU USE THE NATURAL SYSTEM OF LOGARITHMS.	7	7	3	5	6	0	50	50	0	80	7	
A	10	A1-10 DO YOU PERFORM CALCULATIONS ON VECTOR QUANTITIES.	13	13	8	7	11	6	75	75	0	100	10	
A	11	A1-11 DO YOU WORK WITH TRIGONOMETRIC FUNCTIONS SUCH AS SINE, COSINE, OR TANGENT.	31	32	24	22	38	14	75	75	0	100	34	
A	12	A1-12 DO YOU DETERMINE AREAS OF PLANE FIGURES.	7	7	5	6	7	0	13	13	0	20	8	
A	13	A1-13 DO YOU SOLVE OR USE SIMULTANEOUS EQUATIONS.	9	10	5	5	8	0	63	63	0	100	10	
A	14	A1-14 DO YOU SOLVE OR USE PROPORTIONS.	17	17	14	9	24	5	50	50	0	60	19	
A	15	A2-01 DO YOU USE THE TERM VOLTAGE OR VOLT (V).	92	91	92	87	93	100	100	100	100	100	93	DIRECT CURRENT AND VOLTAGE
A	16	A2-02 DO YOU USE THE TERM ELECTROMOTIVE FORCE (EMF).	30	32	22	27	21	32	75	75	0	100	24	
A	17	A2-03 DO YOU USE THE TERM OHM.	88	88	92	83	89	100	100	100	100	100	86	
A	18	A2-04 DO YOU USE THE TERM ION.	18	19	14	17	11	5	75	75	0	100	14	
A	19	A2-05 DO YOU USE THE TERM DYNE.	11	12	5	7	8	5	38	38	0	40	10	
A	20	A2-06 DO YOU USE THE TERM AMPERE.	79	78	86	78	73	82	100	100	100	100	71	
A	21	A2-07 DO YOU USE THE TERM NEUTRON.	18	19	14	15	15	9	75	75	0	100	15	
A	22	A2-08 DO YOU USE THE TERM COULOMB.	15	16	8	12	11	0	75	75	0	100	10	
A	23	A2-09 DO YOU USE THE TERM PROTON.	17	18	14	15	14	9	75	75	0	100	15	
A	24	A3-01 DO YOU WORK WITH RESISTORS IN YOUR PRESENT JOB.	72	73	65	74	65	73	100	100	100	100	59	RESISTANCE
A	25	A3-02 DO YOU INSPECT RESISTORS.	63	63	62	66	55	77	75	75	100	60	46	
A	26	A3-03 DO YOU CLEAN RESISTORS.	33	33	30	29	37	36	25	25	50	0	24	
A	27	A3-04 DO YOU ADJUST RESISTORS.	68	67	76	71	58	82	75	75	100	60	49	
A	28	A3-05 DO YOU CHECK OHMIC VALUE OR RESISTORS.	66	66	65	62	63	73	100	100	100	100	56	
A	29	A3-06 DO YOU REMOVE OR REPLACE RESISTORS.	51	49	62	54	45	73	13	13	0	0	29	
A	30	A3-07 DO YOU USE OR REFER TO TEMPERATURE COEFFICIENTS FOR RESISTORS ON ANY TASKS YOU PERFORM.	25	26	19	22	20	27	38	38	0	40	17	
A	31	A3-08 DO YOU USE OR REFER TO RESISTOR SYMBOLS SUCH AS FIXED RESISTOR SYMBOLS OR TAPPED RESISTOR SYMBOLS.	69	70	62	70	61	77	100	100	100	100	54	
A	32	A3-09 DO YOU IDENTIFY OR CLASSIFY THE RESISTORS YOU WORK WITH AS CARBON, FIXED WIRE, SLIDE TAP, RHEOSTAT, OR POTENTIOMETER.	62	63	57	57	58	82	88	88	100	80	51	
A	33	A3-10 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE OHMIC VALUE OF RESISTANCE.	62	61	62	61	52	82	88	88	50	100	42	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
A	34	A3-11 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE TOLERANCE.	50	49	59	45	41	64	75	75	0	100	31	
A	35	A3-12 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE FAILURE RATE.	14	15	8	12	11	5	63	63	0	80	7	
A	36	A3-13 DO YOU MAKE DECISIONS IN WHICH YOU MUST DETERMINE HOW TWO OR MORE BATTERIES MUST BE CONNECTED TOGETHER TO ACHIEVE A SPECIFIC VOLTAGE.	21	21	16	18	18	14	75	75	0	100	18	
A	37	A3-14 DO YOU USE OR REFER TO THE SCHEMATIC SYMBOLS WHICH REPRESENT BATTERIES, FUSES, CONDUCTORS, LAMPS, OR SWITCHES	77	78	76	78	69	82	100	100	100	100	64	
A	38	A3-15 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES RESISTIVE CIRCUITS.	41	42	35	32	48	41	75	75	0	100	41	
A	39	A3-16 DO YOU CALCULATE TOTAL CURRENT FOR SERIES RESISTIVE CIRCUITS.	33	35	22	28	35	27	75	75	0	100	27	
A	40	A3-17 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES RESISTIVE CIRCUITS.	38	41	24	33	41	36	88	88	50	100	34	
A	41	A3-18 DO YOU CALCULATE POWER DISSIPATION FOR SERIES RESISTIVE CIRCUITS.	28	29	22	24	31	14	63	63	0	100	25	
A	42	A3-19 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES PARALLEL RESISTIVE CIRCUITS.	40	41	35	30	44	41	75	75	0	100	37	
A	43	A3-20 DO YOU CALCULATE TOTAL CURRENT FOR SERIES PARALLEL RESISTIVE CIRCUITS.	32	34	19	27	32	27	75	75	0	100	25	
A	44	A3-21 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	39	41	30	30	41	41	88	88	50	100	36	
A	45	A3-22 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	28	30	16	22	28	23	75	75	0	100	22	
A	46	A3-23 DO YOU CALCULATE POWER DISSIPATION FOR SERIES PARALLEL RESISTIVE CIRCUITS.	27	28	22	20	30	27	63	63	0	100	24	
A	47	A3-24 DO YOU CALCULATE TOTAL RESISTANCE FOR PARALLEL RESISTIVE CIRCUITS.	39	40	35	30	45	41	75	75	0	100	37	
A	48	A3-25 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RESISTIVE CIRCUITS.	33	35	22	27	35	27	75	75	0	100	27	
A	49	A3-26 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR PARALLEL RESISTIVE CIRCUITS.	39	40	32	30	42	41	88	88	50	100	36	
A	50	A3-27 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR PARALLEL RESISTIVE CIRCUITS.	30	32	19	22	34	27	75	75	0	100	27	
A	51	A3-28 DO YOU CALCULATE POWER DISSIPATION FOR PARALLEL RESISTIVE CIRCUITS.	27	28	22	20	31	27	63	63	0	100	24	
B	52	B1-01 DO YOU MEASURE RESISTANCE.	89	88	97	89	90	95	100	100	100	100	88	MULTIMETER USE
B	53	B1-02 DO YOU REPAIR OHMMETERS.	4	5	3	6	6	0	0	0	0	0	5	
B	54	B1-03 DO YOU MEASURE VOLTAGE.	92	90	97	88	90	100	100	100	100	100	90	
B	55	B1-04 DO YOU REPAIR VOLTMETERS.	5	5	3	4	10	0	13	13	0	0	5	
B	56	B1-05 DO YOU REPAIR AMMETERS.	5	6	0	5	10	0	0	0	0	0	5	
B	57	B1-06 DO YOU MEASURE CURRENT.	69	70	65	63	72	77	100	100	100	100	76	
B	58	B1-07 DO YOU USE MULTIMETERS.	89	88	95	85	92	95	100	100	100	100	92	
B	59	B1-08 DO YOU DIRECTLY USE A QUANTITY OF CHARGE CALLED A COULOMB.	5	5	5	4	4	0	13	13	0	20	5	
B	60	B1-09 DO YOU READ SCHEMATICS.	91	90	97	89	87	100	88	88	100	80	84	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063
B	61	82-01 DO YOU USE OR REFER TO THE TERM EFFECTIVE VOLTAGE (RMS).	63	63	62	56	63	59	88	88	50	100	59
B	62	82-02 DO YOU USE OR REFER TO THE TERM PEAK TO PEAK VOLTAGE.	78	78	81	71	79	77	88	88	50	100	78
B	63	82-03 DO YOU USE OR REFER TO THE TERM AVERAGE VOLTAGE (DC).	73	74	68	66	73	77	88	88	50	100	71
B	64	82-04 DO YOU USE OR REFER TO THE TERM WAVE LENGTH.	67	68	62	61	69	64	88	88	50	100	69
B	65	82-05 DO YOU USE OR REFER TO THE TERM FREQUENCY.	83	84	81	80	83	77	88	88	50	100	81
B	66	82-06 DO YOU USE OR REFER TO THE TERM INSTANTANEOUS VALUE.	31	33	22	27	30	27	88	88	50	100	25
B	67	83-01 DO YOU WORK WITH INDUCTORS OR CIRCUITS CONTAINING INDUCTORS, CHOKES, OR CHOKE COILS IN YOUR PRESENT JOB.	50	50	46	51	38	59	88	88	100	100	29
B	68	83-02 DO YOU INSPECT INDUCTORS.	33	32	43	28	31	50	38	38	50	40	20
B	69	83-03 DO YOU CLEAN INDUCTORS.	18	19	14	16	20	27	0	0	0	0	12
B	70	83-04 DO YOU ADJUST INDUCTORS.	28	28	30	22	25	32	38	38	0	40	19
B	71	83-05 DO YOU REMOVE OR REPLACE INDUCTORS.	31	28	43	26	28	59	13	13	0	0	12
B	72	83-06 DO YOU USE OR REFER TO INDUCTANCE.	34	35	32	30	27	41	75	75	50	100	19
B	73	83-07 DO YOU USE OR REFER TO HENRIES.	26	26	24	23	17	32	63	63	0	100	10
B	74	83-08 DO YOU USE OR REFER TO INDUCTIVE REACTANCE.	27	27	24	24	15	36	75	75	50	100	12
B	75	83-09 DO YOU USE OR REFER TO COPPER LOSS IN INDUCTORS.	9	10	5	4	11	9	50	50	0	60	12
B	76	83-10 DO YOU USE OR REFER TO HYSTERESIS LOSS IN INDUCTORS.	11	12	5	5	10	9	63	63	0	100	10
B	77	83-11 DO YOU USE OR REFER TO EDDY CURRENT LOSS IN INDUCTORS	13	14	5	7	8	14	63	63	0	100	8
B	78	83-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTANCE IS PROPORTIONAL TO THE SQUARE OF THE NUMBER OF TURNS OF THE COIL.	10	11	5	4	8	5	63	63	0	100	12
B	79	83-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE CROSS SECTIONAL AREA OF THE CORE.	12	13	3	5	11	5	75	75	0	100	12
B	80	83-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS INVERSELY PROPORTIONAL TO ITS LENGTH.	11	12	3	5	7	9	63	63	0	100	12
B	81	83-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE PERMEABILITY OF THE CORE MATERIAL.	11	12	5	4	11	9	75	75	0	100	10
B	82	83-16 DO YOU CALCULATE INDUCTANCE FOR PARTICULAR INDUCTORS USING FORMULAS.	8	9	3	2	7	5	75	75	0	100	8
B	83	83-17 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTANCE IN SERIES.	12	13	5	6	11	9	63	63	0	100	8
B	84	83-18 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN PARALLEL.	11	12	5	6	10	9	63	63	0	100	8
B	85	83-19 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES-PARALLEL CIRCUITS.	12	13	5	6	11	9	63	63	0	100	8
B	86	83-20 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LAGS VOLTAGE IN AC INDUCTOR CIRCUITS.	17	19	11	11	15	18	75	75	50	100	15
B	87	83-21 DO YOU CALCULATE INDUCTIVE REACTANCE.	12	14	3	6	11	9	63	63	0	100	8
B	88	83-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTIVE REACTANCE IS DIRECTLY PROPORTIONAL TO FREQUENCY.	15	17	8	9	14	18	75	75	0	100	8
B	89	83-23 DO YOU WORK WITH POWER INDUCTORS.	32	32	32	32	27	50	50	50	50	40	22
B	90	83-24 DO YOU WORK WITH AUDIO FREQUENCY INDUCTORS.	18	18	16	10	21	18	63	63	0	80	15
B	91	83-25 DO YOU WORK WITH RADIO FREQUENCY INDUCTORS.	34	35	30	33	25	41	75	75	50	80	20

ALTERNATING CURRENT

INDUCTORS AND INDUCTIVE REACTANCE

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063
C 92	C1-01 DO YOU WORK WITH CAPACITORS OR CIRCUITS CONTAINING CAPACITORS IN YOUR PRESENT JOB.	67	68	59	67	62	68	88	88	50	100	58
C 93	C1-02 DO YOU INSPECT CAPACITORS.	54	53	57	54	52	59	63	63	50	60	42
C 94	C1-03 DO YOU CLEAN CAPACITORS.	30	29	32	27	34	32	25	25	50	0	15
C 95	C1-04 DO YOU ADJUST CAPACITORS.	44	44	41	34	51	50	50	50	0	40	41
C 96	C1-05 DO YOU TEST CAPACITORS.	44	43	51	43	37	59	75	75	50	80	22
C 97	C1-06 DO YOU DISCHARGE CAPACITORS.	55	55	57	54	54	59	75	75	50	80	44
C 98	C1-07 DO YOU REMOVE OR REPLACE CAPACITORS.	45	43	54	44	42	64	13	13	0	0	25
C 99	C1-08 DO YOU USE OR REFER TO DISTRIBUTED CAPACITANCE.	16	17	8	15	15	14	63	63	0	80	14
C 100	C1-09 DO YOU USE OR REFER TO ORBITAL STRESS OF ELECTRONS IN A DIELECTRIC.	8	9	8	4	6	5	50	50	0	80	7
C 101	C1-10 DO YOU USE OR REFER TO FARADS, MICROFARADS, OR PICOFARADS.	46	45	46	39	38	59	75	75	50	100	29
C 102	C1-11 DO YOU USE OR REFER TO CAPACITANCE.	48	49	43	40	46	55	75	75	50	100	37
C 103	C1-12 DO YOU USE OR REFER TO DIELECTRIC CONSTANT	15	16	11	10	13	9	63	63	0	100	8
C 104	C1-13 DO YOU USE OR REFER TO WORKING VOLTAGE RATING OF CAPACITORS	37	37	38	33	30	45	88	88	50	100	14
C 105	C1-14 DO YOU USE OR REFER TO CAPACITIVE REACTANCE	25	26	24	21	23	27	88	88	50	100	15
C 106	C1-15 DO YOU USE OR REFER TO CAPACITOR COLOR CODES	20	20	16	18	15	23	50	50	0	60	10
C 107	C1-16 DO YOU WORK WITH CAPACITORS IN DC CIRCUITS	69	68	70	63	68	73	88	88	50	100	61
C 108	C1-17 DO YOU WORK WITH CAPACITORS IN AC CIRCUITS	67	67	68	63	62	77	88	88	50	100	56
C 109	C1-18 DO YOU WORK WITH CAPACITORS IN CIRCUITS WITH BOTH DC AND AC	61	61	62	52	65	59	88	88	50	100	56
C 110	C1-19 DO YOU WORK WITH CAPACITORS IN DON'T REMEMBER WHICH CIRCUITS	11	10	16	11	10	14	13	13	0	20	10
C 111	C1-20 DO YOU CALCULATE CAPACITANCE FOR PARTICULAR CAPACITORS USING FORMULAS	9	10	3	6	6	5	63	63	0	100	7
C 112	C1-21 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS DIRECTLY PROPORTIONAL TO THE DIELECTRIC CONSTANT	9	11	0	6	7	5	63	63	0	100	8
C 113	C1-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS INVERSELY PROPORTIONAL TO THE DIELECTRIC THICKNESS	10	11	3	4	8	9	75	75	0	100	7
C 114	C1-23 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES	16	17	11	11	13	14	63	63	0	100	8
C 115	C1-24 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN PARALLEL	16	17	11	11	14	14	75	75	0	100	7
C 116	C1-25 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES-PARALLEL CIRCUITS	15	16	11	11	10	14	63	63	0	100	7
C 117	C1-26 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT DOES NOT FLOW THROUGH CAPACITORS, IT ONLY APPEARS TO DO SO	22	24	14	13	23	18	88	88	50	100	14
C 118	C1-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LEADS VOLTAGE IN AC CAPACITOR CIRCUITS	19	20	14	11	20	18	75	75	0	100	14
C 119	C1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITIVE REACTANCE IS INVERSELY PROPORTIONAL TO FREQUENCY	15	17	8	10	14	18	75	75	0	100	7
C 120	C1-29 DO YOU CALCULATE CAPACITIVE REACTANCE	14	16	3	12	10	9	63	63	0	100	8

CAPACITORS AND
CAPACITIVE REACTANCE

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
C 121	C1-30 DO YOU WORK WITH ROTOR-STATOR (VARIABLE) CAPACITORS	39	41	32	30	42	45	75	75	0	100	29	
C 122	C1-31 DO YOU WORK WITH COMPRESSION (TRIMMER) CAPACITORS	23	23	24	17	24	23	25	25	0	40	17	
C 123	C1-32 DO YOU WORK WITH ELECTROLYTIC (FIXED) CAPACITORS	49	49	46	43	44	59	63	63	0	100	34	
C 124	C1-33 DO YOU WORK WITH PAPER (FIXED) CAPACITORS	38	36	43	35	32	45	38	38	0	60	22	
C 125	C1-34 DO YOU WORK WITH MICA (FIXED) CAPACITORS	41	41	41	30	39	50	50	50	0	80	31	
C 126	C1-35 DO YOU WORK WITH CERAMIC (FIXED) CAPACITORS	47	48	46	40	46	55	63	63	0	100	37	
C 127	C1-36 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF CAPACITORS	24	23	27	27	23	27	38	38	50	20	19	
C 128	C2-01 DO YOU WORK WITH TRANSFORMERS IN YOUR PRESENT JOB	61	61	59	67	51	59	75	75	50	80	42	
C 129	C2-02 DO YOU INSPECT TRANSFORMERS	50	50	54	50	46	59	63	63	50	60	37	TRANSFORMERS
C 130	C2-03 DO YOU CLEAN TRANSFORMERS	27	27	27	24	30	32	13	13	0	0	15	
C 131	C2-04 DO YOU ADJUST TRANSFORMERS	25	25	22	20	24	27	50	50	0	60	20	
C 132	C2-05 DO YOU TROUBLESHOOT TRANSFORMERS	47	49	41	44	49	50	75	75	50	80	41	
C 133	C2-06 DO YOU REMOVE OR REPLACE COMPLETE TRANSFORMERS	48	47	57	50	44	64	25	25	50	0	32	
C 134	C2-07 DO YOU REMOVE OR REPLACE TRANSFORMER PARTS, SUCH AS THE PRIMARY WINDING	3	3	3	2	4	5	0	0	0	0	3	
C 135	C2-08 DO YOU MAKE A DISTINCTION BETWEEN MUTUAL INDUCTION AND MUTUAL INDUCTANCE (M)	8	8	5	5	3	5	63	63	0	100	5	
C 136	C2-09 DO YOU USE THE SYMBOL FOR MUTUAL INDUCTANCE, M	6	6	5	7	6	5	25	25	0	40	5	
C 137	C2-10 DO YOU REFER TO OR USE THE COEFFICIENT OF COUPLING WHEN WORKING WITH TRANSFORMERS	10	11	5	7	4	7	75	75	0	100	7	
C 138	C2-11 DO YOU CALCULATE TURNS RATIOS FOR TRANSFORMERS USING CURRENT OR VOLTAGE RATIOS	14	17	3	11	13	5	75	75	0	100	10	
C 139	C2-12 DO YOU REFER TO REFLECTED IMPEDANCE WHEN WORKING WITH TRANSFORMERS	9	11	0	6	8	9	50	50	0	80	7	
C 140	C2-13 DO YOU CALCULATE IMPEDANCE INTERACTIONS FOR TRANSFORMERS	10	11	3	5	8	9	63	63	0	100	5	
C 141	C2-14 DO YOU WORK WITH AUTOTRANSFORMERS	20	22	11	9	24	27	63	63	0	80	15	
C 142	C2-15 DO YOU WORK WITH POWER TRANSFORMERS	55	55	54	55	42	64	63	63	0	80	36	
C 143	C2-16 DO YOU WORK WITH AUDIO TRANSFORMERS	18	19	14	6	23	18	75	75	0	100	19	
C 144	C2-17 DO YOU WORK WITH RADIO FREQUENCY TRANSFORMERS	37	38	32	32	30	41	75	75	0	100	22	
C 145	C2-18 DO YOU WORK WITH DON'T REMEMBER WHAT TYPE OF TRANSFORMERS	17	17	19	21	15	27	38	38	50	20	12	
C 146	C2-19 DO YOU CHECK TRANSFORMERS FOR OPEN WINDINGS BY MEASURING RESISTANCE	49	48	57	45	42	64	63	63	0	80	34	
C 147	C2-20 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING RESISTANCE	46	44	51	39	41	59	63	63	0	80	31	
C 148	C2-21 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING OUTPUT VOLTAGES	40	39	46	35	35	55	75	75	50	80	27	
C 149	C2-22 DO YOU MEASURE RESISTANCE OF TRANSFORMER WINDINGS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO	21	21	19	17	18	32	38	38	0	60	15	
C 150	C2-23 DO YOU MEASURE OUTPUT VOLTAGE OF TRANSFORMERS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO	27	27	30	20	24	32	50	50	0	60	19	
C 151	C2-24 DO YOU REFER TO BASIC TRANSFORMER SCHEMATIC SYMBOLS FOR TRANSFORMERS	57	56	59	50	49	68	88	88	50	100	41	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
C 152	C2-25 DO YOU REFER TO MULTIPLE SECONDARY-WINDINGS SCHEMATIC SYMBOLS FOR TRANSFORMERS	47	47	49	39	41	59	63	63	0	80	32	
C 153	C2-26 DO YOU REFER TO MULTIPLE TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	49	48	54	40	41	66	63	63	0	80	31	
C 154	C2-27 DO YOU REFER TO CENTER TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	52	51	54	46	41	68	88	88	50	100	32	
C 155	C2-28 DO YOU REFER TO AIR CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	33	34	27	27	24	32	75	75	0	100	19	
C 156	C2-29 DO YOU REFER TO IRON CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	36	38	24	34	25	36	75	75	0	100	20	
C 157	C2-30 DO YOU REFER TO COMBINATIONS OF THE ABOVE SCHEMATIC SYMBOLS FOR TRANSFORMERS	42	42	43	32	39	55	75	75	0	100	31	
C 158	C2-31 DO YOU DETERMINE PHASE RELATIONSHIPS BETWEEN SECONDARY AND PRIMARY VOLTAGES OF TRANSFORMERS USING SCHEMATIC SYMBOLS	30	32	24	23	25	32	88	88	50	100	25	
C 159	C2-32 DO YOU DETERMINE OR REFER TO THE TYPE OF CORE IN TRANSFORMERS YOU WORK WITH	19	20	14	10	14	32	75	75	0	100	10	
C 160	C2-33 DO YOU REFER TO OR USE THE GENERAL RULE THAT THE TURNS RATIO OF A TRANSFORMER IS EQUAL TO THE VOLTAGE RATIO	19	19	16	16	8	23	63	63	0	100	10	
C 161	C2-34 DO YOU USE OR REFER TO STEP-UP OR STEP-DOWN RATIOS FOR TRANSFORMERS	29	30	22	22	21	36	75	75	0	100	14	
C 162	C2-35 DO YOU CALCULATE VOLTAGE RATIOS FOR TRANSFORMERS USING TURNS RATIOS	10	10	8	13	3	18	63	63	0	100	8	
C 163	C2-36 DO YOU CALCULATE CURRENT RATIOS FOR TRANSFORMERS USING TURNS RATIOS	12	13	8	5	10	14	63	63	0	100	8	
C 164	C2-37 DOES YOUR JOB INVOLVE ANY TASKS DEALING WITH THREE PHASE TRANSFORMERS	40	37	54	41	28	64	25	25	0	20	20	
C 165	C2-38 DO YOU INSPECT THREE PHASE TRANSFORMERS	30	27	46	32	21	50	13	13	0	20	12	
C 166	C2-39 DO YOU CLEAN OR LUBRICATE THREE PHASE TRANSFORMERS	13	12	16	11	11	23	0	0	0	0	5	
C 167	C2-40 DO YOU ADJUST THREE PHASE TRANSFORMERS	10	9	14	6	10	14	13	13	0	20	7	
C 168	C2-41 DO YOU TROUBLESHOOT THREE PHASE TRANSFORMERS	31	29	38	27	30	45	13	13	0	20	22	
C 169	C2-42 DO YOU REMOVE OR REPLACE COMPLETE THREE PHASE TRANSFORMERS	30	28	43	32	21	50	0	0	0	0	10	
C 170	C2-43 DO YOU REMOVE OR REPLACE THREE PHASE TRANSFORMER PARTS SUCH AS WINDINGS	2	2	3	0	4	5	0	0	0	0	3	
C 171	C3-01 DO YOU USE OR REFER TO PERMANENT MAGNETS	55	52	68	51	42	73	75	75	0	100	34	
C 172	C3-02 DO YOU USE OR REFER TO TEMPORARY MAGNETS	32	31	35	28	27	27	88	88	50	100	22	
C 173	C3-03 DO YOU USE OR REFER TO RETENTIVITY OF MAGNETIC MATERIALS	13	12	14	6	10	14	63	63	0	100	10	MAGNETISM
C 174	C3-04 DO YOU USE OR REFER TO RELUCTANCE OF MAGNETIC MATERIALS	12	12	8	6	10	9	63	63	0	100	8	
C 175	C3-05 DO YOU USE OR REFER TO PERMEABILITY OF MAGNETIC MATERIALS	12	13	8	6	10	9	75	75	0	100	8	
C 176	C3-06 DO YOU USE OR REFER TO RESIDUAL MAGNETISM	12	13	8	6	11	5	63	63	0	100	6	
C 177	C3-07 DO YOU USE OR REFER TO MAGNETIC LINES OF FORCE OR FLUX	24	25	16	16	18	32	75	75	0	100	17	
C 178	C3-08 DO YOU USE OR REFER TO WEBER'S THEORY OF MAGNETISM	7	7	5	4	6	9	25	25	0	40	7	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063
C 179	C3-09 DO YOU USE OR REFER TO DOMAIN THEORY OF MAGNETISM	6	6	5	4	6	5	0	0	0	0	7
C 180	C3-10 DO YOU USE OR REFER TO MAGNETIC INDUCTION	21	21	19	16	16	18	75	75	0	100	15
C 181	C3-11 DO YOU USE OR REFER TO FLUX DENSITY	14	15	11	7	11	14	63	63	0	100	10
C 182	C3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT FOR MAGNETIC POLES, LIKE POLES REPEL AND UNLIKE POLES ATTRACT	38	37	41	33	34	50	75	75	0	100	24
C 183	C3-13 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE DIRECTION OF MAGNETIC FIELDS ABOUT STRAIGHT WIRES	15	16	11	6	15	18	75	75	0	100	12
C 184	C3-14 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE NORTH POLE OF A CURRENT CARRYING COIL	15	17	5	6	14	14	75	75	0	100	12
D 185	D1-01 DO YOU WORK WITH RC, LR, RCL CIRCUITS IN YOUR PRESENT JOB	37	36	41	29	31	45	88	88	50	100	20
D 186	D1-02 DO YOU USE OR REFER TO VECTORS WHEN WORKING WITH RCL CIRCUITS	10	11	8	4	10	5	63	63	0	100	8
D 187	D1-03 DO YOU USE OR REFER TO PYTHAGOREAN THEOREM WHEN WORKING WITH RCL CIRCUITS	7	8	3	2	6	0	50	50	0	80	7
D 188	D1-04 DO YOU USE OR REFER TO SINE WHEN WORKING WITH RCL CIRCUITS	20	19	22	10	21	18	63	63	0	100	15
D 189	D1-05 DO YOU USE OR REFER TO COSINE WHEN WORKING WITH RCL CIRCUITS	20	19	22	10	21	18	63	63	0	100	15
D 190	D1-06 DO YOU USE OR REFER TO TANGENT WHEN WORKING WITH RCL CIRCUITS	14	14	14	9	13	14	50	50	0	80	10
D 191	D1-07 DO YOU USE OR REFER TO WATTS WHEN WORKING WITH RCL CIRCUITS	25	24	27	17	27	23	88	88	50	100	17
D 192	D1-08 DO YOU USE OR REFER TO TRUE POWER (PT) WHEN WORKING WITH RCL CIRCUITS	13	13	11	7	18	18	38	38	0	40	14
D 193	D1-09 DO YOU USE OR REFER TO MAXIMUM POWER (PM) WHEN WORKING WITH RCL CIRCUITS	17	18	14	10	23	23	38	38	0	40	15
D 194	D1-10 DO YOU USE OR REFER TO AVERAGE POWER (PAVE) WHEN WORKING WITH RCL CIRCUITS	19	20	11	11	24	23	50	50	0	60	17
D 195	D1-11 DO YOU USE OR REFER TO APPARENT POWER (PA) WHEN WORKING WITH RCL CIRCUITS	11	12	8	6	15	5	25	25	0	40	12
D 196	D1-12 DO YOU USE OR REFER TO POWER FACTOR (PF) WHEN WORKING WITH RCL CIRCUITS	12	12	8	7	14	9	25	25	0	40	10
D 197	D1-13 DO YOU USE OR REFER TO RESONANT CIRCUITS WHEN WORKING WITH RCL CIRCUITS	28	26	38	17	20	36	75	75	50	100	10
D 198	D1-14 DO YOU USE OR REFER TO BANDWIDTH WHEN WORKING WITH RCL CIRCUITS	29	28	35	15	28	41	88	88	50	100	19
D 199	D1-15 DO YOU USE OR REFER TO SELECTIVITY WHEN WORKING WITH RCL CIRCUITS	25	24	27	13	23	32	88	88	50	100	15
D 200	D1-16 DO YOU USE OR REFER TO RESONANT FREQUENCY WHEN WORKING WITH RCL CIRCUITS	32	30	38	20	28	36	75	75	50	100	19
D 201	D1-17 DO YOU USE OR REFER TO HALF POWER POINTS WHEN WORKING WITH RCL CIRCUITS	15	16	11	7	13	14	63	63	0	100	10
D 202	D1-18 DO YOU USE OR REFER TO BANDPASS REGION WHEN WORKING WITH RCL CIRCUITS	22	22	22	9	24	27	75	75	50	100	19
D 203	D1-19 DO YOU USE OR REFER TO CIRCUIT Q WHEN WORKING WITH RCL CIRCUITS	17	17	14	5	15	18	63	63	0	100	8

RCL CIRCUITS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063
D 204	D1-20 DO YOU USE OR REFER TO TANK CIRCUITS WHEN WORKING WITH RCL CIRCUITS	28	28	27	18	24	32	75	75	50	100	15
D 205	D1-21 DO YOU DETERMINE VALUES OF TRIGONOMETRIC FUNCTIONS USING FORMULAS	7	8	3	2	6	0	50	50	0	80	6
D 206	D1-22 DO YOU DRAW VOLTAGE, CURRENT, OR IMPEDANCE VECTOR DIAGRAMS FOR CIRCUITS	7	7	3	0	6	0	63	63	0	100	8
D 207	D1-23 DO YOU CALCULATE TOTAL IMPEDANCE FOR CAPACITIVE CIRCUITS	10	11	8	5	10	5	63	63	0	100	7
D 208	D1-24 DO YOU CALCULATE PHASE ANGLES BETWEEN IMPEDANCE AND RESISTANCE IN CAPACITIVE CIRCUITS	7	7	3	1	6	0	63	63	0	100	7
D 209	D1-25 DO YOU CALCULATE TOTAL IMPEDANCE FOR SERIES RCL CIRCUITS	10	10	8	5	8	5	63	63	0	100	7
D 210	D1-26 DO YOU CALCULATE IMPEDANCE ANGLES FOR SERIES RCL CIRCUITS	7	7	5	2	6	0	50	50	0	80	7
D 211	D1-27 DO YOU CALCULATE APPARENT POWER (PA) FOR SERIES RCL CIRCUITS	8	7	8	2	8	5	38	38	0	60	7
D 212	D1-28 DO YOU CALCULATE TRUE POWER (PT) FOR SERIES RCL CIRCUITS	7	7	5	2	10	0	38	38	0	60	7
D 213	D1-29 DO YOU CALCULATE POWER FACTORS (PF) FOR SERIES RCL CIRCUITS	7	7	5	2	7	0	38	38	0	60	7
D 214	D1-30 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RCL CIRCUITS	8	9	8	2	7	5	63	63	0	100	7
D 215	D1-31 DO YOU CALCULATE IMPEDANCE ANGLES FOR PARALLEL RCL CIRCUITS	7	7	8	1	6	5	50	50	0	80	7
D 216	D1-32 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING THE ASSUMED VOLTAGE METHOD	7	7	5	4	6	0	50	50	0	80	7
D 217	D1-33 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING OHM'S LAW	11	11	11	6	10	9	63	63	0	100	8
D 218	D1-34 DO YOU CHECK CAPACITORS USING OHMMETERS	31	29	38	20	35	36	88	88	50	100	22
D 219	D1-35 DO YOU CHECK CAPACITORS USING SUBSTITUTION	19	17	30	12	21	27	13	13	0	20	7
D 220	D1-36 DO YOU CHECK INDUCTORS USING OHMMETERS	28	26	35	17	28	32	63	63	0	100	19
D 221	D1-37 DO YOU CHECK INDUCTORS USING SUBSTITUTION	18	16	30	11	18	27	13	13	0	20	7
D 222	D1-38 DO YOU USE OR REFER TO THE GENERAL RULE THAT THETA= 0, PF = 1, AND PA = PT FOR RESONANT CIRCUITS	3	3	0	2	4	0	0	0	0	0	5
D 223	D1-39 DO YOU CALCULATE RESONANT FREQUENCIES FOR RCL CIRCUITS	11	12	8	5	10	9	63	63	0	100	8
D 224	D1-40 DO YOU USE OR REFER TO THE GENERAL RULE THAT IMPEDANCE IS MINIMUM AND CURRENT MAXIMUM AT THE RESONANT FREQUENCY FOR SERIES RCL CIRCUITS	13	14	8	9	14	5	75	75	0	100	10
D 225	D1-41 DO YOU USE OR REFER TO THE GENERAL RULE THAT LINE CURRENT IS MINIMUM AND IMPEDANCE MAXIMUM AT RESONANT FREQUENCY FOR PARALLEL RCL CIRCUITS	12	12	11	6	11	9	63	63	0	100	10
D 226	D1-42 DO YOU USE OR REFER TO THE GENERAL RULE THAT HALF POWER POINTS ARE AT 70.7 PERCENT OF THE PEAK CURRENT VALUE	13	15	5	6	13	5	63	63	0	100	8
D 227	D1-43 DO YOU USE OR REFER TO THE GENERAL RULE THAT BANDWIDTH IS INVERSELY PROPORTIONAL TO Q	10	11	8	5	8	9	63	63	0	100	7
D 228	D1-44 DO YOU DETERMINE HOW CHANGES IN FREQUENCY, RESISTANCE, CAPACITANCE, OR INDUCTANCE WILL AFFECT CURRENT OR PHASE ANGLES FOR RCL CIRCUITS	11	12	5	5	10	5	75	75	0	100	10

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
D 229	D2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH, USE, OR REFER TO SERIES OR PARALLEL RESONANT CIRCUITS OR TIME CONSTANTS	25	26	19	21	23	23	50	50	0	80	19	
D 230	D2-02 DO YOU WORK WITH, USE, OR REFER TO TIME CONSTANTS	21	22	19	13	18	23	63	63	0	100	14	
D 231	D2-03 DO YOU WORK WITH, USE, OR REFER TO AVAILABLE VOLTAGE	13	13	11	6	16	9	50	50	0	80	15	
D 232	D2-04 DO YOU WORK WITH, USE, OR REFER TO TRANSIENT INTERVALS	12	12	11	6	8	9	63	63	0	100	8	
D 233	D2-05 DO YOU USE OR REFER TO THE GENERAL RULE THAT A CAPACITOR IS FULLY CHARGED (OR DISCHARGED) AFTER FIVE (5) TIME CONSTANTS (TC)	16	17	14	10	10	23	75	75	0	100	7	SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)
D 234	D2-06 DO YOU USE OR REFER TO UNIVERSAL TIME CONSTANT CHARTS	8	9	8	5	4	9	63	63	0	100	7	
D 235	D2-07 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CIRCUIT CURRENT OR COMPONENT VOLTAGES AFTER A SPECIFIC TIME FOR RC OR LR CIRCUITS	8	8	5	4	3	5	63	63	0	100	7	
D 236	D2-08 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE THE TIME REQUIRED FOR CIRCUIT CURRENT OR COMPONENT VOLTAGES TO REACH SPECIFIC VALUES FOR RC OR LR CIRCUITS	8	9	5	2	7	5	63	63	0	100	7	
D 237	D2-09 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE COMPONENT VALUES REQUIRED FOR CIRCUIT CURRENT AND COMPONENT VOLTAGES TO REACH SPECIFIC VALUES IN SPECIFIC TIMES	7	7	3	2	6	0	50	50	0	80	7	
D 238	D2-10 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT IN LR CIRCUITS REACHES ITS MINIMUM VALUE (OR ZERO) AFTER FIVE (5) TIME CONSTANTS	11	12	5	6	10	5	75	75	0	100	7	
D 239	D3-01 DO YOU WORK WITH CIRCUITS USED AS FILTERS IN YOUR PRESENT JOB	45	44	46	38	44	55	75	75	50	80	37	
D 240	D3-02 DO YOU INSPECT FILTER CIRCUITS	33	32	38	29	34	50	50	50	0	60	20	FILTERS
D 241	D3-03 DO YOU CLEAN FILTER CIRCUITS	21	19	27	13	23	32	0	0	0	0	12	
D 242	D3-04 DO YOU ALIGN OR ADJUST FILTER CIRCUITS	24	24	22	17	24	45	38	38	0	40	19	
D 243	D3-05 DO YOU TROUBLESHOOT TO THE FILTER CIRCUIT LEVEL	35	35	38	23	41	50	75	75	50	80	34	
D 244	D3-06 DO YOU TROUBLESHOOT TO COMPONENT PARTS	27	26	35	20	28	45	25	25	0	20	19	
D 245	D3-07 DO YOU REMOVE OR REPLACE THE COMPLETE FILTER CIRCUIT	32	30	41	22	38	45	13	13	0	0	29	
D 246	D3-08 DO YOU REMOVE OR REPLACE FILTER CIRCUIT COMPONENT PARTS	24	21	35	16	28	45	13	13	0	0	14	
D 247	D3-09 DO YOU WORK WITH LOW PASS FILTERS	25	26	24	20	21	41	38	38	0	60	15	
D 248	D3-10 DO YOU WORK WITH HIGH PASS FILTERS	25	25	24	18	21	41	38	38	0	60	15	
D 249	D3-11 DO YOU WORK WITH BANDPASS FILTERS	27	28	22	20	23	36	75	75	0	100	17	
D 250	D3-12 DO YOU WORK WITH BAND-REJECT FILTERS	24	24	22	18	15	32	63	63	0	100	14	
D 251	D3-13 DON'T REMEMBER WHICH TYPE OF FILTER YOU WORK WITH	21	21	24	21	21	18	50	50	50	40	19	
D 252	D3-14 DO YOU WORK WITH L-SECTION FILTER CONFIGURATION	22	22	22	13	13	36	63	63	0	100	8	
D 253	D3-15 DO YOU WORK WITH T-SECTION FILTER CONFIGURATION	19	19	22	10	11	36	63	63	0	100	8	
D 254	D3-16 DO YOU WORK WITH PI-SECTION FILTER CONFIGURATION	17	17	19	10	10	36	50	50	0	80	7	
D 255	D3-17 DON'T REMEMBER WHICH TYPE FILTER CONFIGURATION	26	26	27	29	28	18	38	38	50	20	29	
D 256	D3-18 DO THE FILTERS YOU WORK WITH USE PARALLEL RESONANT CIRCUITS	28	28	24	22	23	36	75	75	0	100	17	
D 257	D3-19 DO THE FILTERS YOU WORK WITH USE SERIES-PARALLEL CIRCUITS	29	30	27	22	24	36	63	63	0	80	20	
D 258	D3-20 DO THE FILTERS YOU WORK WITH USE SERIES RESONANT CIRCUITS	28	28	24	21	21	36	75	75	0	100	15	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
U 259	03-21 DON'T REMEMBER WHICH TYPE OF BASIC CIRCUIT	21	21	24	20	25	23	38	38	50	20	20	
E 260	03-22 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CAPACITANCE OR INDUCTANCE VALUES REQUIRED FOR SPECIFIC FILTERS	7	9	0	5	6	9	38	38	0	60	5	
E 261	E1-01 DO YOU WORK WITH COUPLING DEVICES IN YOUR PRESENT JOB	38	37	41	28	31	45	75	75	0	100	20	
E 262	E1-02 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH RC COUPLING	36	36	38	27	30	45	75	75	0	100	22	COUPLING
E 263	E1-03 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH IMPEDANCE COUPLING	35	35	35	24	28	41	75	75	0	100	19	
E 264	E1-04 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH TRANSFORMER COUPLING	35	35	38	28	27	41	75	75	0	100	17	
E 265	E1-05 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM RC COUPLING	33	32	38	23	30	45	75	75	0	100	22	
E 266	E1-06 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM IMPEDANCE COUPLING	31	31	30	24	27	36	63	63	0	80	17	
E 267	E1-07 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM TRANSFORMER COUPLING	32	30	38	22	27	45	75	75	0	100	17	
E 268	E1-08 DO YOU WORK WITH DIRECTLY COUPLED CIRCUITS	30	30	32	24	20	41	75	75	0	100	14	
E 269	E1-09 DO YOU WORK WITH CAPACITIVE-RESISTIVE COUPLED CIRCUITS	31	31	32	23	23	41	75	75	0	100	17	
E 270	E1-10 DO YOU WORK WITH CAPACITIVE-INDUCTIVE COUPLED CIRCUITS	30	30	30	24	18	41	75	75	0	100	12	
E 271	E1-11 DO YOU WORK WITH TRANSFORMER COUPLED CIRCUITS	32	32	32	26	21	41	75	75	0	100	15	
E 272	E1-12 DON'T REMEMBER WHICH TYPE OF COUPLING CIRCUITS	13	12	14	13	11	18	25	25	0	20	7	
E 273	E2-01 IN YOUR PRESENT JOB, DO YOU PERFORM SOLDERING TECHNIQUES OR INSPECT OR EVALUATE SOLDERED CONNECTIONS	79	78	84	82	83	86	63	63	100	40	75	
E 274	E2-02 DO YOU SELECT TYPE OF SOLDER TO USE	61	61	59	62	69	66	63	63	100	40	59	
E 275	E2-03 DO YOU ADD FLUX TO CONNECTIONS	63	61	68	66	63	68	63	63	100	40	59	SOLDERING
E 276	E2-04 DO YOU CLEAN CONNECTIONS USING SOLVENTS	61	58	73	57	63	86	63	63	100	40	53	
E 277	E2-05 DO YOU STRIP INSULATION FROM WIRES	79	78	86	83	82	91	63	63	100	40	73	
E 278	E2-06 DO YOU CONNECT OR DISCONNECT HEAT SINKS	60	60	57	63	62	68	63	63	100	40	49	
E 279	E2-07 DO YOU BEND OR SHAPE WIRES OR LEADS	77	75	84	79	80	91	63	63	100	40	71	
E 280	E2-08 DO YOU CUT WIRES	79	78	86	83	83	91	63	63	100	40	75	
E 281	E2-09 DO YOU FILE OR SHAPE SOLDERING IRON TIPS	58	58	59	63	58	64	50	50	50	40	53	
E 282	E2-10 DO YOU TIN SOLDERING IRON TIPS	76	75	84	79	79	91	63	63	100	40	71	
E 283	E2-11 DO YOU CLEAN SOLDERING IRON TIPS	76	75	84	78	80	91	63	63	100	40	71	
E 284	E2-12 DO YOU CLEAN ELECTRICAL SURFACES USING ERASERS	44	46	32	38	56	41	50	50	50	40	51	
E 285	E2-13 DO YOU TIN OR PRE-TIN CONDUCTORS	71	70	73	73	73	82	63	63	100	40	66	
E 286	E2-14 DO YOU INSPECT SOLDERED CONNECTIONS	76	75	78	80	80	86	63	63	100	40	73	
E 287	E2-15 DO YOU DESOLDER CONNECTIONS BY WICKING	48	48	49	51	54	45	63	63	100	40	42	
E 288	E2-16 DO YOU DESOLDER CONNECTIONS USING VACUUM DESOLDERING TOOLS	63	60	76	60	62	91	50	50	100	20	51	
E 289	E2-17 DO YOU CUT COMPONENT LEADS TO REMOVE COMPONENTS	50	47	65	49	54	64	50	50	50	40	44	
E 290	E2-18 DO YOU CRUSH COMPONENTS FOR REMOVAL	24	24	24	28	21	18	38	38	50	20	17	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
E 291	E2-19	DO YOU MAKE HARDWIRE CONNECTIONS	68	66	76	66	70	86	63	63	100	40	63	
E 292	E2-20	DO YOU MAKE PRINTED CIRCUIT BOARD CONNECTIONS	46	43	62	49	34	73	63	63	100	40	14	
E 293	E2-21	DO YOU SOLDER PASSIVE COMPONENTS SUCH AS RESISTORS OR CAPACITORS ON PRINTED CIRCUIT BOARDS	44	42	57	48	32	73	50	50	50	40	14	
E 294	E2-22	DO YOU SOLDER ACTIVE COMPONENTS SUCH AS SOLID-STATE DIODES OR TRANSISTORS ON PRINTED CIRCUIT BOARDS	42	39	57	43	31	73	38	38	50	40	14	
E 295	E3-01	DO YOU WORK WITH RELAYS ON YOUR PRESENT JOB	79	77	86	78	72	86	100	100	100	100	68	RELAYS
E 296	E3-02	DO YOU ADJUST RELAYS	19	21	11	16	28	14	25	25	0	20	20	
E 297	E3-03	DO YOU CLEAN RELAYS	27	26	32	26	28	32	13	13	0	0	17	
E 298	E3-04	DO YOU INSPECT RELAYS	55	55	57	59	55	59	63	63	100	40	46	
E 299	E3-05	DO YOU REMOVE OR REPLACE COMPLETE RELAYS	59	55	78	61	49	77	38	38	50	20	37	
E 300	E3-06	DO YOU REMOVE OR REPLACE PARTS OR RELAYS	11	11	11	11	14	5	25	25	50	0	10	
E 301	E3-07	DO YOU TROUBLESHOOT RELAYS	71	70	73	68	72	77	63	63	100	40	69	
E 302	E3-08	DO YOU STRAIGHTEN RELAY CONTACTS	25	25	27	26	24	27	13	13	0	0	20	
E 303	E3-09	DO YOU PERFORM TASKS ON RELAY CONTACTS	21	20	24	22	20	27	38	38	0	40	12	
E 304	E3-10	DO YOU PERFORM TASKS ON RELAY CORES	6	6	5	6	7	0	25	25	0	20	5	
E 305	E3-11	DO YOU PERFORM TASKS ON RELAY COILS	9	9	11	6	11	9	38	38	0	40	8	
E 306	E3-12	DO YOU PERFORM TASKS ON RELAY ARMATURES	7	7	5	6	7	0	25	25	0	20	5	
E 307	E3-13	DO YOU PERFORM TASKS ON RELAY SPRINGS	8	7	8	9	8	5	25	25	0	20	5	
E 308	E3-14	DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY OPEN (NO) SCHEMATIC SYMBOLS FOR RELAYS	64	65	59	62	59	59	100	100	100	100	54	
E 309	E3-15	DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY CLOSED (NC) SCHEMATIC SYMBOLS FOR RELAYS	64	65	59	62	59	59	100	100	100	100	54	
E 310	E3-16	DO YOU USE OR REFER TO SINGLE POLE, DOUBLE THROW (SPDT) SCHEMATIC SYMBOLS FOR RELAYS	63	65	57	63	58	59	88	88	50	100	51	
E 311	E3-17	DO YOU USE OR REFER TO DOUBLE POLE, DOUBLE THROW (DPDT) SCHEMATIC SYMBOLS FOR RELAYS	63	64	62	60	59	59	88	88	50	100	53	
E 312	E3-18	DO YOU USE OR REFER TO OTHER RELAY SYMBOLS SCHEMATIC SYMBOLS FOR RELAYS	63	63	62	54	62	64	88	88	50	100	58	
E 313	E3-19	DO YOU CHECK ELECTRICAL CONTINUITY OF COILS BY MEASURING RESISTANCE	61	60	65	46	68	68	75	75	0	100	63	
F 314	F1-01	IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH MICROPHONES	7	7	3	7	8	5	25	25	50	0	7	
F 315	F1-02	DO YOU INSPECT MICROPHONES	3	4	0	2	6	0	13	13	0	0	3	
F 316	F1-03	DO YOU CLEAN MICROPHONES	2	2	0	1	3	0	0	0	0	0	2	MICROPHONES
F 317	F1-04	DO YOU OPERATE MICROPHONES	6	6	3	5	8	5	25	25	50	0	7	
F 318	F1-05	DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OR MICROPHONES	4	5	0	4	6	0	13	13	0	0	5	
F 319	F1-06	DO YOU TROUBLESHOOT DOWN TO MICROPHONE PARTS	2	3	0	1	4	0	13	13	0	0	2	
F 320	F1-07	DO YOU REMOVE OR REPLACE COMPLETE MICROPHONES	3	3	0	2	4	0	0	0	0	0	3	
F 321	F1-08	DO YOU REMOVE OR REPLACE MICROPHONE PARTS	2	3	0	1	4	0	13	13	0	0	2	
F 322	F1-09	DO YOU PERFORM TASKS ON CARBON MICROPHONES	3	3	0	2	4	0	13	13	0	0	2	
F 323	F1-10	DO YOU PERFORM TASKS ON CAPACITOR MICROPHONES	2	3	0	1	4	0	13	13	0	0	2	
F 324	F1-11	DO YOU PERFORM TASKS ON CRYSTAL MICROPHONES	3	3	0	2	4	0	13	13	0	0	2	
F 325	F1-12	DO YOU PERFORM TASKS ON DYNAMIC MICROPHONES	2	2	0	1	3	0	0	0	0	0	2	
F 326	F1-13	DO YOU PERFORM TASKS ON VELOCITY RIBBON MICROPHONES	2	2	0	1	3	0	0	0	0	0	2	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 051	SPC 062	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
F	327	F2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH SPEAKERS	6	7	0	5	8	0	38	38	50	40	7	
F	328	F2-02 DO YOU INSPECT SPEAKERS	4	4	0	1	6	0	25	25	0	20	3	SPEAKERS
F	329	F2-03 DO YOU CLEAN SPEAKERS	2	2	0	0	4	0	13	13	0	0	2	
F	330	F2-04 DO YOU OPERATE SPEAKERS	5	6	0	4	7	0	50	50	50	40	3	
F	331	F2-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OF SPEAKERS	5	6	0	1	10	0	25	25	0	20	7	
F	332	F2-06 DO YOU TROUBLESHOOT DOWN TO SPEAKER PARTS	2	3	0	0	3	0	25	25	0	40	2	
F	333	F2-07 DO YOU REMOVE OR REPLACE COMPLETE SPEAKERS	3	3	0	0	7	0	0	0	0	0	3	
F	334	F2-08 DO YOU REMOVE OR REPLACE SPEAKER PARTS	1	2	0	0	3	0	0	0	0	0	2	
F	335	F2-09 DO YOU PERFORM ANY TASKS ON SPEAKER CONES	2	2	0	0	3	0	13	13	0	20	2	
F	336	F2-10 DO YOU PERFORM ANY TASKS ON SPEAKER SPIDERS	1	2	0	0	3	0	0	0	0	0	2	
F	337	F2-11 DO YOU PERFORM ANY TASKS ON SPEAKER FIELD COILS	2	3	0	0	3	0	25	25	0	40	2	
F	338	F2-12 DO YOU PERFORM ANY TASKS ON SPEAKER VOICE COILS	2	3	0	0	3	0	25	25	0	40	2	
F	339	F2-13 DO YOU PERFORM ANY TASKS ON SPEAKER PERMANENT MAGNETS	2	3	0	0	3	0	13	13	0	20	3	
F	340	F2-14 DO YOU PERFORM ANY TASKS ON SPEAKER ELECTROMAGNETS	2	3	0	0	3	0	13	13	0	20	3	
F	341	F2-15 DO YOU PERFORM ANY TASKS ON SPEAKER SOFT IRON CORES	2	3	0	0	3	0	13	13	0	20	3	
F	342	F3-01 DO YOU USE OSCILLOSCOPES IN YOUR PRESENT JOB	84	84	84	79	86	86	88	88	100	100	86	
F	343	F3-02 DO YOU USE OSCILLOSCOPES TO PERFORM OPERATIONAL CHECKS	76	76	68	71	83	77	100	100	100	100	85	
F	344	F3-03 DO YOU USE OSCILLOSCOPES TO PERFORM ALIGNMENTS OR ADJUSTMENTS	83	83	81	80	86	77	100	100	100	100	85	OSCILLOSCOPES
F	345	F3-04 DO YOU USE OSCILLOSCOPES TO TROUBLESHOOT ELECTRONIC CIRCUITS	78	79	73	73	86	82	100	100	100	100	85	
F	346	F3-05 DO YOU USE OSCILLOSCOPES TO MEASURE FREQUENCY	73	75	59	67	79	64	100	100	100	100	80	
F	347	F3-06 DO YOU USE OSCILLOSCOPES TO MEASURE TIME	60	63	49	50	70	45	88	88	50	100	69	
F	348	F3-07 DO YOU USE OSCILLOSCOPES TO OBSERVE LISAJOUS PATTERNS	41	43	32	28	59	32	25	25	0	20	56	
F	349	F3-08 DO YOU USE OSCILLOSCOPES TO OBSERVE SIGNALS WHILE UTILIZING ATTENUATOR PROBES	70	74	49	66	77	66	63	63	0	80	80	
F	350	F3-09 DO YOU USE OSCILLOSCOPES TO MAKE FREQUENCY OR TIME MEASUREMENTS USING DELAY TIME MULTIPLIERS	35	38	22	27	48	23	38	38	0	40	41	
F	351	F3-10 DO YOU USE OSCILLOSCOPES TO MEASURE AC VOLTAGE	79	79	78	68	87	73	88	88	50	100	88	
F	352	F3-11 DO YOU USE OSCILLOSCOPES TO MEASURE OR OBSERVE SIGNALS AFTER FIRST ADJUSTING THE GAIN AND DC BAL CONTROLS	64	67	46	55	79	64	88	88	100	80	76	
F	353	F3-12 DO YOU USE OSCILLOSCOPES TO MEASURE DC VOLTAGE	76	80	70	70	89	73	88	88	50	100	88	
G	354	G1-01 DO YOU WORK WITH SEMICONDUCTOR DIODES IN YOUR PRESENT JOB	54	52	65	50	41	73	63	63	50	60	32	
G	355	G1-02 DO YOU INSPECT DIODES	48	45	59	48	38	59	50	50	50	60	27	
G	356	G1-03 DO YOU REMOVE OR REPLACE DIODES	43	40	59	45	35	68	13	13	0	0	15	
G	357	G1-04 DO YOU CHECK DIODES USING AN INSTRUMENT	50	48	57	46	41	64	63	63	0	80	29	
G	358	G1-05 DO YOU USE ENERGY LEVEL DIAGRAMS IN YOUR WORK WITH DIODES	8	9	3	4	11	5	38	38	0	40	8	
G	359	G1-06 DO YOU USE PN JUNCTION DIODE CHARACTERISTIC CURVES, TOGETHER WITH VALUES OF FORWARD AND REVERSE BIAS VOLTAGE, TO COMPUTE FORWARD OR REVERSE BIAS RESISTANCE	13	14	5	9	10	18	50	50	0	80	10	
G	360	G1-07 DO YOU COMPUTE FORWARD OR REVERSE BIAS RESISTANCE FOR DIODES	17	18	16	13	17	9	63	63	0	100	12	SEMICONDUCTOR DIODES

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063
G 361	G1-08 DO YOU USE OR REFER TO THE GENERAL RULE THAT TEMPERATURE CAN AFFECT THE OPERATION OF DIODES	35	34	41	24	27	55	75	75	50	100	14
G 362	G1-09 DO YOU IDENTIFY SEMICONDUCTOR DIODES AS OPPOSED TO OTHER ELECTRONIC COMPONENTS, SUCH AS RESISTORS, BASED ON THEIR PHYSICAL APPEARANCE	45	44	49	39	38	50	88	88	50	100	29
G 363	G1-10 DO YOU REFER TO OR DO YOU DETERMINE THE GENERAL EFFECTS OF DOPING ON CURRENT FLOW	13	13	14	7	7	9	63	63	0	100	8
G 364	G1-11 DO YOU USE OR REFER TO MEASUREMENTS OF FORWARD BIAS RESISTANCE	33	31	43	24	23	45	75	75	50	100	15
G 365	G1-12 DO YOU USE OR REFER TO DIODE COLOR CODING	25	25	27	21	23	23	88	88	50	100	8
G 366	G1-13 DO YOU USE OR REFER TO CENTRIFUGAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	6	7	0	4	4	5	50	50	0	60	5
G 367	G1-14 DO YOU USE OR REFER TO CENTRIPETAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	7	8	0	4	6	5	50	50	0	60	7
G 368	G1-15 DO YOU USE OR REFER TO DIODE NUMBERING SYSTEM, SUCH AS IN 538	37	34	49	27	32	59	63	63	0	80	17
G 369	G1-16 DO YOU USE OR REFER TO KINETIC ENERGY OF AN ELECTRON MOVING IN ORBIT	5	6	0	2	4	5	50	50	0	60	5
G 370	G1-17 DO YOU USE OR REFER TO POTENTIAL ENERGY OF AN ELECTRON MOVING IN ORBIT	6	7	0	2	4	5	50	50	0	60	5
G 371	G1-18 DO YOU USE OR REFER TO MEASUREMENTS OF REVERSE BIAS RESISTANCE	36	34	43	27	30	41	75	75	50	100	20
G 372	G1-19 DO YOU USE OR REFER TO NUMBER OF ELECTRONS IN A PARTICULAR SHELL OR ORBIT	7	9	0	2	6	5	63	63	0	80	7
G 373	G1-20 DO YOU USE OR REFER TO PERMISSIBLE ENERGY LEVELS OF AN ORBITING ELECTRON	7	8	0	2	6	5	75	75	0	100	5
G 374	G1-21 DO YOU USE OR REFER TO FORBIDDEN ENERGY LEVELS OF AN ORBITING ELECTRON	8	9	0	2	6	5	75	75	0	100	7
G 375	G1-22 DO YOU USE OR REFER TO VALENCE ELECTRONS (THOSE IN THE OUTERMOST SHELL)	8	9	0	2	6	5	75	75	0	100	7
G 376	G1-23 DO YOU USE OR REFER TO ATOMIC NUMBER (TOTAL NUMBER OF ELECTRONS IN ATOM)	6	7	0	2	6	5	50	50	0	60	5
G 377	G1-24 DO YOU USE OR REFER TO SYMBOLS ON THE DIODE WHICH INDICATE THE CATHODE END	45	46	43	39	34	50	88	88	50	100	29
G 378	G1-25 DO YOU NEED TO KNOW WHICH MATERIALS ARE USED IN THE CONSTRUCTION OF DIODES SUCH AS GERMANIUM OR SILICON	11	11	8	7	6	5	50	50	0	80	5
G 379	G1-26 DO YOU NEED TO KNOW THAT SEMICONDUCTORS HAVE NEGATIVE TEMPERATURE COEFFICIENTS OF RESISTANCE (AS TEMPERATURE INCREASES RESISTANCE DECREASES)	22	21	24	17	10	41	75	75	50	100	3
G 380	G1-27 DO YOU USE OR REFER TO PN JUNCTION DIODE CHARACTERISTIC CURVES, SUCH AS VOLTAGE - CURRENT CHARACTERISTIC CURVES (PERHAPS YOU DO THIS TO IDENTIFY POINTS OF STRUCTURAL BREAKDOWN OR OPERATING REGIONS)	11	11	11	6	6	23	63	63	50	80	2
G 381	G1-28 DO YOU DETERMINE WHETHER PN JUNCTION DIODES ARE FORWARD BIASED OR REVERSE BIASED WHEN YOU READ OR INTERPRET CIRCUIT DIAGRAMS	36	35	41	30	23	45	88	88	50	100	12
G 382	G1-29 DO YOU USE OR REFER TO VALENCE BAND IN SEMICONDUCTOR MATERIALS	9	10	8	5	4	9	63	63	0	100	5

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
G 383	G1-30 DO YOU USE OR REFER TO FORBIDDEN BAND IN SEMICONDUCTOR MATERIALS	8	8	5	4	1	5	63	63	0	100	3	
G 384	G1-31 DO YOU USE OR REFER TO CONDUCTION BAND IN SEMICONDUCTOR MATERIALS	10	10	8	5	6	9	63	63	0	100	3	
G 385	G1-32 DO YOU USE OR REFER TO COVALENT BONDING IN SEMICONDUCTOR MATERIALS	7	7	5	1	1	14	50	50	0	80	3	
G 386	G1-33 DO YOU USE OR REFER TO ELECTRON-HOLE PAIR CREATED IN SEMICONDUCTORS	6	7	0	1	3	5	63	63	0	100	3	
G 387	G1-34 DO YOU USE OR REFER TO ELECTRON FLOW OR HOLE FLOW IN SEMICONDUCTORS	10	11	5	4	8	9	63	63	0	100	10	
G 388	G1-35 DO YOU USE OR REFER TO DONOR IMPURITY IN SEMICONDUCTORS	6	7	0	1	3	5	63	63	0	100	3	
G 389	G1-36 DO YOU USE OR REFER TO ACCEPTOR IMPURITY IN SEMICONDUCTORS	6	7	0	1	1	5	63	63	0	100	3	
G 390	G1-37 DO YOU USE OR REFER TO P-TYPE SEMICONDUCTOR MATERIAL	17	19	11	11	15	23	75	75	0	100	7	
G 391	G1-38 DO YOU USE OR REFER TO N-TYPE SEMICONDUCTOR MATERIAL	17	19	11	11	15	23	75	75	0	100	7	
G 392	G1-39 DO YOU USE OR REFER TO MAJORITY CARRIERS IN SEMICONDUCTORS	6	7	3	1	1	5	63	63	0	100	3	
G 393	G1-40 DO YOU USE OR REFER TO MINORITY CARRIERS IN SEMICONDUCTORS	6	7	3	1	1	5	63	63	0	100	3	
G 394	G1-41 DO YOU USE OR REFER TO JUNCTION RECOMBINATION IN SEMICONDUCTORS	7	7	3	1	1	5	63	63	0	100	3	
G 395	G1-42 DO YOU USE OR REFER TO DEPLETION REGION IN SEMICONDUCTORS	8	9	5	1	6	9	63	63	0	100	3	
G 396	G1-43 DO YOU USE OR REFER TO RELATIONSHIP BETWEEN BARRIER WIDTH AND DIFFERENCE OF POTENTIAL	6	7	0	1	3	5	63	63	0	100	3	
G 397	G1-44 DO YOU USE OR REFER TO THE 10:1 BACK TO FRONT RESISTANCE RATIO FOR DIODES	24	26	14	22	18	23	50	50	0	80	15	
G 398	G1-45 DO YOU USE OR REFER TO BARRIER HEIGHT IN SEMICONDUCTORS	7	9	0	4	4	5	63	63	0	100	3	
G 399	G1-46 DO YOU USE OR REFER TO DIODE SUBSTITUTION INFORMATION	22	20	30	18	20	18	25	25	0	40	7	
G 400	G1-47 DO YOU USE OR REFER TO MAXIMUM AVERAGE FORWARD CURRENT DIODE RATINGS	10	11	5	5	10	9	50	50	0	80	5	
G 401	G1-48 DO YOU USE OR REFER TO PEAK RECURRENT FORWARD CURRENT DIODE RATINGS	9	10	5	5	8	9	50	50	0	80	5	
G 402	G1-49 DO YOU USE OR REFER TO MAXIMUM SURGE CURRENT DIODE RATINGS	9	10	5	6	7	9	38	38	0	60	3	
G 403	G1-50 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE DIODE RATINGS	16	18	5	9	11	23	75	75	0	100	3	
G 404	G2-01 DO YOU WORK WITH TRANSISTORS IN YOUR PRESENT JOB?	55	55	54	55	42	68	88	88	50	100	32	
G 405	G2-02 DO YOU INSPECT TRANSISTORS	45	43	54	45	35	59	63	63	50	60	22	
G 406	G2-03 DO YOU REMOVE OR REPLACE TRANSISTORS	41	38	54	44	28	64	13	13	0	0	10	TRANSISTORS
G 407	G2-04 DO YOU CHECK TRANSISTORS USING AN INSTRUMENT	43	41	51	35	35	59	75	75	50	80	24	
G 408	G2-05 DO YOU USE OR REFER TO EMITTER - BASE (EB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	38	37	43	32	28	41	88	88	50	100	17	
G 409	G2-06 DO YOU USE OR REFER TO COLLECTOR - BASE (CB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	38	37	43	33	28	41	75	75	50	100	17	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
G 410	G2-07 DO YOU USE OR REFER TO EMITTER - COLLECTOR (EC) RESISTANCE MEASUREMENTS	38	37	43	34	27	41	75	75	50	100	15	
G 411	G2-08 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE EMITTER - BASE JUNCTION	19	20	14	13	11	18	75	75	50	100	10	
G 412	G2-09 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE COLLECTOR - BASE JUNCTION	18	19	11	15	10	9	63	63	50	80	10	
G 413	G2-10 DO YOU USE OR REFER TO THE PHYSICAL SIZE OF THE TRANSISTOR STRUCTURE (COLLECTOR, BASE AND EMITTER)	27	27	27	27	20	23	75	75	50	100	10	
G 414	G2-11 DO YOU USE OR REFER TO LEAKAGE CURRENT (ICBO) IN A TRANSISTOR	15	17	5	12	13	9	63	63	0	100	7	
G 415	G2-12 DO YOU USE OR REFER TO TRANSISTOR SCHEMATIC SYMBOLS	48	48	51	41	38	64	88	88	50	100	27	
G 416	G2-13 DO YOU USE OR REFER TO TRANSISTOR NOTATION SUCH AS Q1, Q2, Q3, ETC	50	49	51	48	35	64	88	88	50	100	29	
G 417	G2-14 DO YOU USE OR REFER TO TRANSISTOR SUBSTITUTION INFORMATION	26	25	32	23	21	27	38	38	0	60	8	
G 418	G2-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE TRANSISTOR BASE CURRENT IB IS NORMALLY SIGNIFICANTLY SMALLER THAN THE EMITTER CURRENT IE (USUALLY IB BEING 2 TO 8 PERCENT OF IE)	14	14	14	7	11	18	63	63	0	100	10	
G 419	G2-16 DO YOU USE THE INFORMATION THAT THE EFFECT OF EMITTER BASE VOLTAGE ON BASE CURRENT IS THE CONTROLLING FACTOR FOR TRANSISTORS	29	23	30	16	18	36	88	88	50	100	10	
G 420	G2-17 DO YOU USE THE GENERAL RULE THAT LEAKAGE CURRENT (ICBO) IN A TRANSISTOR INCREASES AS TEMPERATURE INCREASES	13	14	11	9	10	9	75	75	0	100	5	
G 421	G2-18 DO YOU USE OR REFER TO TRANSISTOR CHARACTERISTIC CURVES	11	12	5	6	8	9	63	63	0	100	3	
G 422	G2-19 DO YOU USE OR REFER TO BETA TRANSISTOR GAINS	10	12	3	9	6	5	63	63	0	100	7	
G 423	G2-20 DO YOU USE OR REFER TO ALPHA TRANSISTOR GAINS	9	11	3	9	3	5	63	63	0	100	5	
G 424	G2-21 DO YOU USE OR REFER TO GAMMA TRANSISTOR GAINS	9	10	3	7	3	5	63	63	0	100	5	
G 425	G2-22 DO YOU CALCULATE BETA TRANSISTOR GAINS	8	9	3	6	3	0	63	63	0	100	3	
G 426	G2-23 DO YOU CALCULATE ALPHA TRANSISTOR GAINS	8	9	3	6	1	0	63	63	0	100	3	
G 427	G2-24 DO YOU CALCULATE GAMMA TRANSISTOR GAINS	7	8	3	6	1	0	50	50	0	80	3	
G 428	G3-01 DO YOU WORK WITH TRANSISTOR AMPLIFIERS IN YOUR PRESENT JOB	37	37	35	24	35	45	88	88	50	100	29	TRANSISTOR AMPLIFIERS
G 429	G3-02 DO YOU INSPECT TRANSISTOR AMPLIFIERS	27	26	32	18	27	36	38	38	50	40	17	
G 430	G3-03 DO YOU ALIGN OR ADJUST TRANSISTOR AMPLIFIERS	27	26	30	17	32	36	25	25	0	40	24	
G 431	G3-04 DO YOU TROUBLESHOOT TO THE AMPLIFIER CIRCUIT LEVEL	29	29	32	17	32	36	50	50	50	60	25	
G 432	G3-05 DO YOU TROUBLESHOOT TO AMPLIFIER COMPONENTS	22	20	32	9	25	36	38	38	0	60	14	
G 433	G3-06 DO YOU REMOVE OR REPLACE THE COMPLETE AMPLIFIER	26	25	35	20	31	32	13	13	50	0	19	
G 434	G3-07 DO YOU REMOVE OR REPLACE AMPLIFIER COMPONENTS	19	16	32	7	24	36	0	0	0	0	8	
G 435	G3-08 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A CHANGE IN BASE CURRENT	16	16	16	5	17	18	75	75	50	100	10	
G 436	G3-09 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT	10	11	5	2	10	9	63	63	0	100	5	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063
G 437	G3-10 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A CHANGE IN BASE CURRENT	15	14	19	5	15	18	75	75	50	100	7
G 438	G3-11 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT	9	10	5	4	10	5	63	63	0	100	5
G 439	G3-12 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN BASE CURRENT WHICH RESULTS FROM AN INPUT SIGNAL	16	16	16	9	13	23	75	75	50	100	8
G 440	G3-13 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN BASE CURRENT WHICH RESULTS FROM A SPECIFIC INPUT SIGNAL	9	9	11	4	7	9	63	63	0	100	3
G 441	G3-14 DO YOU USE THE LOAD-LINE METHOD OF ANALYSIS IN YOUR CIRCUIT ANALYSIS (THIS METHOD REQUIRES YOU TO PLOT A LOAD-LINE ON A TRANSISTOR CHARACTERISTIC CURVE)	5	6	0	2	1	0	63	63	0	100	2
G 442	G3-15 DO YOU USE OR REFER TO THE OPERATING POINT Q (QUIESCENT POINT) FOR A TRANSISTOR	10	11	5	5	6	14	63	63	0	100	5
G 443	G3-16 DO YOU CALCULATE THE SPECIFIC QUIESCENT POINT FOR A PARTICULAR TRANSISTOR	6	7	0	2	4	5	38	38	0	60	3
G 444	G3-17 DO YOU MEASURE VOLTAGE GAIN USED IN THE COMMON EMITTER CONFIGURATION	23	22	27	10	27	18	75	75	0	100	17
G 445	G3-18 DO YOU MEASURE CURRENT GAIN USED IN THE COMMON EMITTER CONFIGURATION	17	16	24	8	17	18	63	63	0	100	14
G 446	G3-19 DO YOU MEASURE POWER GAIN USED IN THE COMMON EMITTER CONFIGURATION	17	17	16	6	18	9	75	75	0	100	17
G 447	G3-20 DO YOU CALCULATE THE VOLTAGE GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE-EMITTER VOLTAGE INTO THE CHANGE THE BASE COLLECTOR VOLTAGE TO DETERMINE THE VOLTAGE GAIN	8	8	11	2	4	5	63	63	0	100	3
G 448	G3-21 DO YOU CALCULATE THE CURRENT GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE CURRENT INTO THE CHANGE IN COLLECTOR CURRENT TO DETERMINE THE CURRENT GAIN	9	9	11	2	7	5	75	75	0	100	3
G 449	G3-22 DO YOU CALCULATE THE POWER GAIN FOR A SPECIFIC TRANSISTOR USING A FORMULA THAT IS, DO YOU MULTIPLY THE CURRENT GAIN TIMES THE VOLTAGE GAIN TO DETERMINE THE POWER GAIN	7	7	8	1	3	0	63	63	0	100	5
G 450	G3-23 DO YOU NEED TO KNOW THAT MORE COLLECTOR CURRENT IS GENERATED WITH LESS COLLECTOR VOLTAGE AS TEMPERATURE INCREASES (THIS AFFECTS THE STATIC OPERATING POINT [Q] OF THE TRANSISTOR)	8	9	3	2	6	5	50	50	0	80	2
G 451	G3-24 DO YOU COMPUTE THE STATIC OPERATING POINT [Q] OF A TRANSISTOR AT DIFFERENT TEMPERATURES	4	4	3	1	3	0	25	25	0	40	2
G 452	G3-25 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH EMITTER (SWAMPING) RESISTOR STABILIZATION	17	16	22	6	11	23	63	63	0	100	5
G 453	G3-26 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH SELF-BIAS STABILIZATION	14	13	22	2	11	23	63	63	0	100	5

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063
G 454	G3-27 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH THERMISTOR STABILIZATION	14	14	16	4	10	18	50	50	0	80	3
G 455	G3-28 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH FORWARD BIAS DIODE STABILIZATIO	17	16	22	5	14	27	50	50	0	80	7
G 456	G3-29 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH REVERSE BIAS DIODE STABILIZATION	16	15	22	5	13	27	50	50	0	80	5
G 457	G3-30 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH DOUBLE DIODE STABILIZATION	13	11	19	2	8	23	38	38	0	60	3
G 458	G3-31 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM EMITTER (SWAMPING) RESISTOR STABILIZATION	20	19	24	10	18	23	63	63	50	80	12
G 459	G3-32 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM SELF-BIAS STABILIZATION	18	17	24	7	18	23	38	38	50	40	12
G 460	G3-33 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THERMISTOR STABILIZATION	16	16	19	9	15	18	50	50	50	40	10
G 461	G3-34 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM FORWARD BIAS DIODE STABILIZATION	20	18	27	10	20	27	50	50	50	40	12
G 462	G3-35 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM REVERSE BIAS DIODE STABILIZATION	20	18	27	10	18	27	63	63	50	60	10
G 463	G3-36 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM DOUBLE DIODE STABILIZATION	15	13	22	7	13	23	25	25	50	20	8
G 464	G3-37 DO YOU IDENTIFY AMPLITUDE DISTORTION FOR TRANSISTOR CIRCUITS	20	19	24	7	23	14	50	50	0	60	15
G 465	G3-38 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF AMPLITUDE DISTORTION	23	21	30	7	27	27	63	63	0	80	19
G 466	G3-39 DO YOU IDENTIFY FREQUENCY DISTORTION FOR TRANSISTOR CIRCUITS	21	20	27	7	25	18	88	88	50	100	17
G 467	G3-40 DO YOU IDENTIFY PHASE DISTORTION FOR TRANSISTOR CIRCUITS	20	20	19	9	24	14	88	86	50	100	15
G 468	G3-41 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF PHASE DISTORTION	18	18	19	6	24	9	63	63	0	80	17
G 469	G3-42 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF FREQUENCY DISTORTION	19	17	27	5	21	23	63	63	0	80	12
G 470	G3-43 DO YOU NEED TO KNOW THE DEGENERATIVE EFFECTS ON THE CIRCUIT CAUSED BY CHANGING EMITTER RESISTANCE FOR TRANSISTOR AMPLIFIERS IN THE COMMON COLLECTOR CONFIGURATION	11	11	11	2	7	14	63	63	0	100	5
G 471	G3-44 DO YOU DETERMINE THE CLASS OF OPERATION FOR AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	14	13	16	5	13	9	75	75	0	100	7
G 472	G3-45 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	18	18	22	6	24	14	50	50	0	60	15
G 473	G3-46 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	28	27	35	9	35	41	75	75	50	80	27
G 474	G3-47 DO YOU TROUBLESHOOT OR REPAIR COMPLEMENTARY SYMMETRY CIRCUITS	15	14	22	6	13	27	25	25	0	40	6
G 475	G3-48 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	19	18	22	9	18	23	63	63	50	80	14

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
G	476	G3-19 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	22	20	32	10	20	36	63	63	50	80	12	
H	477	H1-01 DO YOU USE OR REFER TO VARACTORS	17	17	14	10	14	18	63	63	0	100	7	SOLID-STATE
H	478	H1-02 DO YOU USE OR REFER TO TUNNEL DIODES	17	19	8	7	18	18	63	63	0	100	10	SPECIAL PURPOSE
H	479	H1-03 DO YOU USE OR REFER TO FIELD EFFECT TRANSISTORS (FET)	31	30	38	24	20	50	63	63	0	100	10	DEVICES
H	480	H1-04 DO YOU USE OR REFER TO UNIJUNCTION TRANSISTORS	33	33	38	27	23	50	75	75	50	100	10	
H	481	H1-05 DO YOU USE OR REFER TO ZENER DIODES	55	53	65	48	41	77	75	76	50	100	31	
H	482	H1-06 DO YOU USE OR REFER TO INTEGRATED CIRCUITS	58	57	62	52	44	73	75	75	50	100	37	
H	483	H2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH POWER SUPPLIES	78	78	78	82	72	68	100	100	100	100	68	
H	484	H2-02 DO YOU INSPECT POWER SUPPLIES	64	61	76	73	52	64	50	50	50	40	42	
H	485	H2-03 DO YOU CLEAN POWER SUPPLIES	36	35	38	39	31	32	13	13	0	0	12	
H	486	H2-04 DO YOU ALIGN OR ADJUST POWER SUPPLIES	58	57	65	63	46	59	63	63	50	60	37	
H	487	H2-05 DO YOU TROUBLESHOOT TO POWER SUPPLY CIRCUIT LEVEL	59	59	59	59	65	59	50	50	50	40	58	POWER SUPPLIES
H	488	H2-06 DO YOU TROUBLESHOOT TO POWER SUPPLY COMPONENTS	54	54	51	54	52	59	63	63	50	60	42	
H	489	H2-07 DO YOU REMOVE OR REPLACE COMPLETE POWER SUPPLIES	70	70	68	78	72	68	25	25	50	0	63	
H	490	H2-08 DO YOU REMOVE OR REPLACE POWER SUPPLY COMPONENTS	45	44	49	56	38	50	13	13	0	0	20	
H	491	H2-09 DO YOU WORK WITH HALF-WAVE RECTIFIERS	46	48	41	41	38	56	75	75	0	100	24	
H	492	H2-10 DO YOU WORK WITH FULL-WAVE RECTIFIERS OTHER THAN BRIDGE RECTIFIERS	47	48	43	41	39	59	75	75	0	100	25	
H	493	H2-11 DO YOU WORK WITH BRIDGE RECTIFIERS	46	47	43	48	37	50	75	75	0	100	24	
H	494	H2-12 DO YOU WORK WITH THREE-PHASE RECTIFIERS	46	46	49	50	38	55	13	13	0	0	25	
H	495	H2-13 DO YOU USE OR REFER TO INPUT VOLTAGE	58	58	59	60	54	68	88	88	50	100	44	
H	496	H2-14 DO YOU USE OR REFER TO INPUT FREQUENCY	50	50	49	41	44	68	88	88	50	100	34	
H	497	H2-15 DO YOU USE OR REFER TO PEAK OUTPUT VOLTAGE	51	53	41	41	52	59	88	88	50	100	44	
H	498	H2-16 DO YOU USE OR REFER TO AVERAGE OUTPUT VOLTAGE	52	52	49	46	45	64	88	88	50	100	39	
H	499	H2-17 DO YOU USE OR REFER TO RIPPLE AMPLITUDE	48	48	49	40	39	56	75	75	0	100	29	
H	500	H2-18 DO YOU USE OR REFER TO RIPPLE FREQUENCY	40	42	32	33	37	45	75	75	0	100	25	
H	501	H2-19 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE	31	34	16	28	27	27	75	75	0	100	20	
H	502	H2-20 DO YOU USE OR REFER TO SHAPE OF OUTPUT WAVEFORMS	52	53	43	43	51	50	88	88	50	100	41	
H	503	H2-21 DO YOU USE OR REFER TO EFFECTIVE OUTPUT VOLTAGE	45	45	43	38	41	45	88	88	50	100	32	
H	504	H2-22 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE FILTERS	43	44	38	41	35	45	75	75	0	100	24	
H	505	H2-23 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE FILTERS	43	44	38	41	34	50	75	75	0	100	24	
H	506	H2-24 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE INPUT L-TYPE FILTERS	35	36	30	32	25	45	63	63	0	100	20	
H	507	H2-25 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE INPUT L-TYPE FILTERS	36	36	32	30	27	50	63	63	0	100	20	
H	508	H2-26 DO YOU WORK WITH CIRCUITS WHICH EMPLOY LC PI-TYPE FILTERS	31	33	24	29	18	41	75	75	0	100	12	
H	509	H2-27 DO YOU WORK WITH CIRCUITS WHICH EMPLOY RC PI-TYPE FILTERS	31	32	27	29	18	41	75	75	0	100	12	
H	510	H2-28 DO YOU WORK WITH CIRCUITS WHICH EMPLOY DON'T REMEMBER WHICH TYPE OF FILTER	29	29	32	30	30	27	25	25	50	20	24	
H	511	H2-29 DO YOU HAVE THE OPTION OF REPLACING ONE TYPE OF FILTER WITH A DIFFERENT TYPE FILTER	8	10	3	5	10	9	50	50	0	80	7	
H	512	H3-01 DO YOU WORK WITH OSCILLATORS IN YOUR PRESENT JOB	42	43	32	35	39	41	63	63	0	80	32	OSCILLATORS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
H 513	H3-02 DO YOU INSPECT OSCILLATORS	32	33	30	29	31	36	38	38	0	40	19	
H 514	H3-03 DO YOU ALIGN OR ADJUST OSCILLATORS	36	37	22	33	34	36	25	25	0	20	31	
H 515	H3-04 DO YOU REMOVE OR REPLACE COMPLETE OSCILLATORS	34	34	35	27	41	50	13	13	0	0	27	
H 516	H3-05 DO YOU REMOVE OR REPLACE OSCILLATOR COMPONENTS	19	19	19	16	24	27	13	13	0	0	8	
H 517	H3-06 DO YOU TROUBLESHOOT TO OSCILLATOR CIRCUIT LEVEL	35	36	30	23	42	36	63	63	0	80	34	
H 518	H3-07 DO YOU TROUBLESHOOT TO OSCILLATOR COMPONENTS	23	24	19	16	31	27	38	38	0	40	20	
H 519	H3-08 DO YOU USE OR REFER TO FEEDBACK	33	35	19	23	35	27	75	75	0	100	29	
H 520	H3-09 DO YOU USE OR REFER TO FREQUENCY DETERMINING DEVICES (FDD)	28	29	19	21	28	23	63	63	0	80	19	
H 521	H3-10 DO YOU USE OR REFER TO AMPLITUDE STABILITY	26	28	19	18	32	23	75	75	0	100	25	
H 522	H3-11 DO YOU USE OR REFER TO FREQUENCY STABILITY	30	30	27	18	37	23	75	75	0	100	27	
H 523	H3-12 DO YOU USE OR REFER TO DAMPING	21	23	11	12	23	23	63	63	0	100	19	
H 524	H3-13 DO YOU USE OR REFER TO REGENERATIVE FEEDBACK	29	30	19	22	27	23	75	75	0	100	15	
H 525	H3-14 DO YOU USE OR REFER TO PIEZOELECTRIC EFFECT	15	17	8	10	13	9	63	63	0	100	7	
H 526	H3-15 DO YOU USE OR REFER TO CRITICAL DAMPING	12	12	8	7	8	14	50	50	0	80	7	
H 527	H3-16 DO YOU USE OR REFER TO UNDER DAMPING	13	13	8	7	11	14	50	50	0	80	7	
H 528	H3-17 DO YOU USE OR REFER TO OVER DAMPING	12	13	8	7	10	14	50	50	0	80	7	
H 529	H3-18 DO YOU WORK WITH OSCILLATORS WHICH USE LC TANK CIRCUITS AS FDD	29	32	19	21	30	27	63	63	0	100	20	
H 530	H3-19 DO YOU WORK WITH OSCILLATORS WHICH USE RC NETWORKS AS FDD	33	35	22	26	32	36	75	75	0	100	24	
H 531	H3-20 DO YOU WORK WITH OSCILLATORS WHICH USE CRYSTALS AS FDD	37	40	24	32	35	32	75	75	0	100	27	
H 532	H3-21 DO YOU WORK WITH OSCILLATORS WHICH USE DON'T REMEMBER WHICH TYPE OF FDD	12	12	14	11	14	14	25	25	0	20	7	
H 533	H3-22 DO YOU WORK WITH SERIES HARTLEY SINUSOIDAL OSCILLATORS	17	18	11	9	13	23	63	63	0	100	8	
H 534	H3-23 DO YOU WORK WITH SHUNT HARTLEY SINUSOIDAL OSCILLATORS	17	19	11	10	14	23	63	63	0	100	10	
H 535	H3-24 DO YOU WORK WITH COLPITTS SINUSOIDAL OSCILLATORS	18	20	8	11	17	18	75	75	0	100	8	
H 536	H3-25 DO YOU WORK WITH CLAPP SINUSOIDAL OSCILLATORS	8	10	3	6	10	9	0	0	0	0	5	
H 537	H3-26 DO YOU WORK WITH BUTLER SINUSOIDAL OSCILLATORS	6	7	3	5	4	9	0	0	0	0	2	
H 538	H3-27 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF OSCILLATORS	24	25	19	23	25	23	25	25	0	20	17	
I 539	I1-01 DO YOU WORK WITH MULTIVIBRATORS IN YOUR PRESENT JOB	42	41	46	28	39	50	75	75	0	100	31	MULTIVIBRATORS
I 540	I1-02 DO YOU INSPECT WAVE GENERATING OR SHAPING CIRCUITS	28	27	32	16	32	36	50	50	0	60	22	
I 541	I1-03 DO YOU ALIGN OR ADJUST WAVE GENERATING OR SHAPING CIRCUITS	31	30	38	16	37	45	50	50	0	60	31	
I 542	I1-04 DO YOU CALIBRATE WAVE GENERATING OR SHAPING CIRCUITS	21	22	16	12	30	27	13	13	0	0	22	
I 543	I1-05 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUITS	34	33	43	17	41	41	63	63	0	80	34	
I 544	I1-06 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUIT COMPONENTS	29	27	41	16	31	36	50	50	0	60	20	
I 545	I1-07 DO YOU REMOVE OR REPLACE COMPLETE WAVE GENERATING OR SHAPING CIRCUITS	29	28	35	20	35	36	25	25	0	20	20	
I 546	I1-08 DO YOU REMOVE OR REPLACE WAVE GENERATING OR SHAPING COMPONENTS	23	19	41	13	24	36	13	13	0	0	8	
I 547	I1-09 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN LC TANK CIRCUITS	29	29	27	17	30	32	63	63	0	80	19	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
I 548	11-10 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN RC NETWORKS	29	30	22	17	31	27	75	75	0	100	24	
I 549	11-11 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN CRYSTALS	26	27	24	15	30	23	38	38	0	40	22	
I 550	11-12 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN DON'T REMEMBER WHICH TYPE OF FDD	16	16	19	9	21	14	13	13	0	20	19	
I 551	11-13 DO YOU WORK WITH ASTABLE MULTIVIBRATORS	25	25	24	13	18	27	63	63	0	100	12	
I 552	11-14 DO YOU WORK WITH MONOSTABLE MULTIVIBRATORS	27	28	24	16	21	32	75	75	0	100	12	
I 553	11-15 DO YOU WORK WITH BISTABLE MULTIVIBRATORS	27	27	27	16	20	32	75	75	0	100	12	
I 554	11-16 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE MULTIVIBRATORS	18	18	19	12	23	18	25	25	0	20	22	
I 555	12-01 DO YOU WORK WITH LIMITERS OR CLAMPERS IN YOUR PRESENT JOB	33	35	27	29	25	32	75	75	0	100	15	LIMITERS
I 556	12-02 DO YOU WORK WITH SERIES DIODE LIMITERS	25	26	22	17	21	23	75	75	0	100	12	AND CLAMPERS
I 557	12-03 DO YOU WORK WITH SHUNT DIODE LIMITERS	23	24	19	12	20	18	63	63	0	100	10	
I 558	12-04 DO YOU WORK WITH LIMITERS WITH BIAS	21	21	16	13	14	23	63	63	0	100	10	
I 559	12-05 DO YOU WORK WITH ZENER DIODE LIMITERS	25	25	22	20	20	23	38	38	0	60	10	
I 560	12-06 DO YOU WORK WITH TRANSISTOR LIMITERS	22	24	16	17	18	23	50	50	0	60	10	
I 561	12-07 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF LIMITERS	13	13	11	10	15	14	13	13	0	20	10	
I 562	12-08 DO YOU WORK WITH BASIC DIODE CLAMPING CIRCUITS	22	23	16	15	18	14	75	75	0	100	8	
I 563	12-09 DO YOU WORK WITH DIODE CLAMPING CIRCUITS WITH BIAS	19	21	8	13	15	14	75	75	0	100	8	
I 564	12-10 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF CLAMPING CIRCUIT	14	14	14	12	17	14	13	13	0	20	12	
I 565	13-01 IN YOUR PRESENT JOB, DO YOU WORK ON EQUIPMENT WHICH CONTAINS ELECTRON TUBES	53	52	57	33	62	64	75	75	0	100	56	ELECTRON TUBES
I 566	13-02 DO YOU CHECK ELECTRON TUBES TO SEE IF THEY ARE GOOD	40	39	43	18	52	55	75	75	0	100	41	
I 567	13-03 DO YOU USE TUBE TESTERS TO CHECK ELECTRON TUBES	24	26	11	4	48	18	75	75	0	100	39	
I 568	13-04 DO YOU USE MULTIMETERS TO CHECK ELECTRON TUBES	22	23	19	6	31	32	50	50	0	60	24	
I 569	13-05 DO YOU USE SCOPES TO CHECK ELECTRON TUBES	26	26	30	9	37	27	38	38	0	40	25	
I 570	13-06 DO YOU USE SUBSTITUTION TO CHECK ELECTRON TUBES	38	36	46	24	44	55	38	38	0	40	29	
I 571	13-07 DO YOU USE OR REFER TO CUTOFF	22	24	14	6	28	23	75	75	0	100	25	
I 572	13-08 DO YOU USE OR REFER TO PEAK INVERSE VOLTAGE RATING	12	12	8	4	14	23	38	38	0	60	12	
I 573	13-09 DO YOU USE OR REFER TO PEAK CURRENT RATING	12	13	8	2	15	23	38	38	0	60	15	
I 574	13-10 DO YOU USE OR REFER TO TRANSIT TIME	11	11	11	4	11	18	50	50	0	80	10	
I 575	13-11 DO YOU USE OR REFER TO PLATE DISSIPATION RATING	13	13	11	4	20	18	50	50	0	60	12	
I 576	13-12 DO YOU USE OR REFER TO SATURATION	25	26	22	9	30	27	75	75	0	100	25	
I 577	13-13 DO YOU USE OR REFER TO DC PLATE RESISTANCE	18	19	14	7	25	18	63	63	0	80	17	
I 578	13-14 DO YOU COMPUTE ACTUAL VALUES OF THE DC PLATE RESISTANCE FOR ELECTRON TUBES	4	5	3	1	6	5	25	25	0	40	2	
I 579	13-15 DO YOU USE OR REFER TO PLATE VOLTAGE	37	38	30	21	41	36	75	75	0	100	31	
I 580	13-16 DO YOU USE OR REFER TO PLATE CURRENT	33	34	27	15	42	32	75	75	0	100	32	
I 581	13-17 DO YOU USE OR REFER TO GRID VOLTAGE	37	38	32	20	42	41	75	75	0	100	32	
I 582	13-18 DO YOU USE OR REFER TO GRID CURRENT	32	32	30	11	42	36	75	75	0	100	32	
I 583	13-19 DO YOU USE OR REFER TO CATHODE VOLTAGE	37	37	32	20	41	41	75	75	0	100	31	
I 584	13-20 DO YOU USE OR REFER TO CATHODE CURRENT	31	32	27	11	41	32	75	75	0	100	31	
I 585	13-21 DO YOU USE OR REFER TO THE TRIODE AMPLIFICATION FACTOR (THE AMPLIFICATION FACTOR FOR TRIODES IS DEFINED AS THE RATIO OF CHANGE IN PLATE VOLTAGE TO A CHANGE IN GRID VOLTAGE)	9	11	3	1	8	14	63	63	0	100	10	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063
I 586	I3-22 DO YOU CALCULATE ACTUAL VALUES OF TRIODE AMPLIFICATION FACTORS	5	6	0	1	3	0	50	50	0	80	5
I 587	I3-23 DO YOU USE OR REFER TO MULTIGRID (TETRODE, PENTODE, ETC) AMPLIFICATION FACTORS	10	11	8	2	7	18	63	63	0	100	8
I 588	I3-24 DO YOU USE OR REFER TO ELECTRON TUBE TRANSCONDUCTANCE (G, WHICH IS MEASURED IN MHOS)	6	7	0	1	6	5	38	38	0	60	3
I 589	I3-25 DO YOU CALCULATE ACTUAL VALUES OF ELECTRON TUBE TRANSCONDUCTANCES	3	4	0	1	3	0	13	13	0	20	3
I 590	I3-26 DO YOU USE OR REFER TO THE ELECTRON TUBE PARAMETER CALLED AC PLATE RESISTANCE	4	5	0	1	3	0	38	38	0	60	5
I 591	I3-27 DO YOU CALCULATE ACTUAL VALUES OF AC PLATE RESISTANCE	4	4	0	1	4	0	25	25	0	40	2
I 592	I3-28 DO YOU USE OR REFER TO ELECTRON TUBE INTERELECTRODE CAPACITANCE	8	10	0	1	10	5	50	50	0	80	10
I 593	I3-29 DO YOU USE OR REFER TO CHARACTERISTIC CURVES IN YOUR WORK WITH ELECTRON TUBES	9	10	3	1	6	9	63	63	0	100	8
I 594	I3-30 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE VOLTAGE FOR A SPECIFIED BIAS	8	9	8	1	8	9	50	50	0	80	7
I 595	I3-31 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE CURRENT FOR A SPECIFIED BIAS	8	9	5	1	8	9	50	50	0	80	7
I 596	I3-32 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR CUTOFF	12	12	8	2	11	14	50	50	0	80	12
I 597	I3-33 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR SATURATION	11	12	8	2	10	14	50	50	0	80	10
I 598	I3-34 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER GAIN	28	30	16	10	39	23	75	75	0	100	34
I 599	I3-35 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER EFFICIENCY	17	18	11	5	24	18	75	75	0	100	15
I 600	I3-36 DO YOU USE TEST TUBE CHECKERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	16	18	5	0	34	9	63	63	0	80	24
I 601	I3-37 DO YOU USE MULTIMETERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	20	21	14	1	31	23	63	63	0	80	27
I 602	I3-38 DO YOU USE OSCILLOSCOPES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	29	29	27	11	39	23	63	63	0	80	36
I 603	I3-39 DO YOU USE CHARACTERISTIC CURVES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	8	10	3	0	11	5	63	63	0	80	7
I 604	I3-40 DO YOU CALCULATE ANY ELECTRON TUBE CAPACITANCES SUCH AS INPUT CAPACITANCE	4	5	3	1	6	5	25	25	0	40	0
I 605	I3-41 DO YOU USE OR REFER TO TUBE SOCKET NOTATION	26	26	30	15	31	27	50	50	0	80	14
I 606	I3-42 DO YOU USE OR REFER TO PIN NUMBERING SYSTEMS	36	35	41	22	39	50	50	50	0	80	24
I 607	I3-43 DO YOU USE OR REFER TO THE TYPE OF MATERIAL OR THE OPERATING TEMPERATURE OF THE EMITTING SURFACE IN THE ELECTRON TUBES YOU WORK ON	6	7	0	1	6	5	50	50	0	80	2
I 608	I3-44 DO YOU USE OR REFER TO TUBE SUBSTITUTION MATERIAL SUCH AS MANUALS OR CHARTS	15	15	16	6	21	23	38	38	0	60	8
J 609	J1-01 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRESENT JOB	34	34	35	15	44	45	50	50	0	60	36
J 610	J1-02 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	12	11	14	1	17	18	50	50	0	60	10

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
J 611	J1-03 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	17	17	16	1	27	32	25	25	0	20	17	
J 612	J1-04 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	23	24	19	2	35	32	38	38	0	40	29	
J 613	J1-05 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	14	13	19	1	17	32	38	38	0	60	10	
J 614	J1-06 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	17	16	19	4	18	27	38	38	0	60	12	
J 615	J1-07 DO YOU TROUBLESHOOT OR REPAIR DON'T KNOW WHICH TYPE OF AMPLIFIER	12	13	5	9	17	9	13	13	0	0	14	
J 616	J2-01 DO YOU WORK WITH GAS TUBES (HOT CATHODE OR COLD CATHODE)	32	33	27	12	45	23	75	75	0	100	36	SPECIAL PURPOSE ELECTRON TUBES
J 617	J2-02 DO YOU WORK WITH CATHODE-RAY TUBES	50	49	57	29	59	64	75	75	0	100	51	
J 618	J2-03 DO YOU USE OR REFER TO THE CHARACTERISTICS OF BEAM POWER TUBES	11	13	3	4	13	9	63	63	0	100	12	
J 619	J2-04 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH BEAM POWER TUBES ARE USED	11	11	8	4	17	14	13	13	0	20	14	
J 620	J2-05 DO YOU USE OR REFER TO THE CHARACTERISTICS OF THYRATRONS	31	33	22	18	44	18	75	75	0	100	36	
J 621	J2-06 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH THYRATRONS ARE USED	38	37	41	21	59	41	25	25	0	20	47	
J 622	J2-07 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTRON GUNS OF CATHODE-RAY TUBES (CRT)	44	44	43	27	49	50	75	75	0	100	39	
J 623	J2-08 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROMAGNETIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)	37	36	41	22	41	41	75	75	0	100	32	
J 624	J2-09 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROSTATIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)	30	30	30	20	25	36	75	75	0	100	24	
J 625	J2-10 DO YOU USE OR REFER TO PHOSPHOR SCREENS	36	35	41	23	30	50	75	75	0	100	25	
J 626	J2-11 DO YOU USE OR REFER TO AQUADAG COATINGS	18	19	14	7	15	18	63	63	0	100	17	
J 627	J2-12 DO YOU USE OR REFER TO ELECTRON OPTICS	21	23	11	13	21	18	75	75	0	100	12	
J 628	J2-13 DO YOU USE OR REFER TO PERSISTENCE	33	31	46	27	24	50	38	38	0	60	14	
J 629	J2-14 DO YOU USE OR REFER TO DECAY TIMES	22	21	24	10	20	36	38	38	0	60	15	
J 630	J2-15 DO YOU USE OR REFER TO FLUORESCENCE	21	20	24	10	18	27	38	38	0	40	15	
J 631	J2-16 DO YOU USE OR REFER TO PHOSPHORESCENCE	22	22	24	10	24	32	38	38	0	40	17	
J 632	J3-01 DO YOU WORK ON TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	66	64	78	65	55	77	88	88	50	100	46	HETERODYNING, DEMODULATION
J 633	J3-02 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	34	34	32	23	41	36	63	63	0	80	27	
J 634	J3-03 DO YOU PERFORM TASKS ON FREQUENCY MIXERS	47	46	54	44	44	64	75	75	50	80	29	MODULATION,
J 635	J3-04 DO YOU USE OR REFER TO THE HETERODYNING OF SIGNALS IN YOUR WORK WITH TRANSMIT OR RECEIVE SYSTEMS	25	28	14	26	20	18	75	75	0	100	14	
J 636	J3-05 DO YOU PERFORM TASKS ON REACTANCE MODULATORS	16	16	19	10	15	14	63	63	0	80	7	
J 637	J3-06 DO YOU PERFORM TASKS ON MODULATED OSCILLATORS	39	37	49	38	32	50	75	75	50	80	20	
K 638	K1-01 DO YOU WORK ON AM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	15	14	19	13	7	18	63	63	0	80	3	AM SYSTEMS
K 639	K1-02 DO YOU INSPECT AM TRANSMIT OR RECEIVE SYSTEMS	13	12	16	11	8	18	38	38	0	40	3	
K 640	K1-03 DO YOU CLEAN AM TRANSMIT OR RECEIVE SYSTEMS	8	7	11	7	7	9	0	0	0	0	2	
K 641	K1-04 DO YOU ALIGN OR ADJUST AM TRANSMIT OR RECEIVE SYSTEMS	12	11	16	11	7	18	13	13	0	20	2	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
K 642	K1-05 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE SYSTEMS	15	14	19	12	10	18	63	63	0	80	5	
K 643	K1-06 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE COMPONENTS	12	11	16	9	8	14	50	50	0	60	3	
K 644	K1-07 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE SYSTEMS	12	10	22	12	10	18	13	13	0	0	2	
K 645	K1-08 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE COMPONENTS	9	8	16	6	10	18	13	13	0	0	2	
K 646	K1-09 DO YOU PERFORM TASKS ON RF OSCILLATORS	12	12	11	9	10	14	50	50	0	60	7	
K 647	K1-10 DO YOU PERFORM TASKS ON RF AMPLIFIERS	13	13	11	9	11	14	50	50	0	60	8	
K 648	K1-11 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	6	7	0	1	8	0	50	50	0	60	5	
K 649	K1-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	11	12	5	7	10	9	50	50	0	60	5	
K 650	K1-13 DO YOU PERFORM TASKS ON LOCAL OSCILLATORS	13	13	11	10	10	14	50	50	0	60	7	
K 651	K1-14 DO YOU PERFORM TASKS ON IF AMPLIFIERS	13	13	11	9	13	14	50	50	0	60	8	
K 652	K1-15 DO YOU PERFORM TASKS ON DETECTORS	13	13	11	9	13	14	50	50	0	60	7	
K 653	K1-16 DO YOU PERFORM TASKS ON DON'T REMEMBER WHICH AM STAGE	2	3	0	1	3	0	13	13	0	0	0	
K 654	K1-17 DO YOU USE OR REFER TO AMPLITUDE STABILIZATION IN TRANSMITTERS	10	10	8	5	10	5	63	63	0	80	5	
K 655	K1-18 DO YOU USE OR REFER TO FREQUENCY STABILIZATION IN TRANSMITTERS	13	12	14	7	10	18	63	63	0	80	3	
K 656	K1-19 DO YOU USE OR REFER TO SENSITIVITY OF RECEIVERS	12	13	5	6	10	14	75	75	0	100	7	
K 657	K1-20 DO YOU USE OR REFER TO SELECTIVITY OF RECEIVERS	13	14	5	7	11	14	75	75	0	100	7	
K 658	K1-21 DO YOU USE OR REFER TO 2ND HARMONIC DISTORTION	5	6	0	1	3	0	50	50	0	80	3	
K 659	K1-22 DO YOU USE OR REFER TO BANDPASS DISTORTION	8	9	5	1	7	9	50	50	0	80	5	
K 660	K1-23 DO YOU USE OR REFER TO SQUARE LAW DISTORTION	3	3	0	0	1	0	38	38	0	60	2	
K 661	K1-24 DO YOU USE OR REFER TO CO-CHANNEL INTERFERENCE	3	3	0	0	3	0	13	13	0	20	5	
K 662	K1-25 DO YOU USE OR REFER TO IMAGE FREQUENCIES IN RECEIVERS	8	8	5	4	7	9	38	38	0	60	3	
K 663	K1-26 DO YOU USE OR REFER TO SIGNAL TO IMAGE RATIOS OR IMAGE REJECTION RATIOS	7	7	3	0	10	5	38	38	0	40	5	
K 664	K1-27 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM TRANSMITTER SCHEMATIC DIAGRAMS	13	13	14	7	10	18	75	75	0	100	2	
K 665	K1-28 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM RECEIVER SCHEMATIC DIAGRAMS	14	14	11	6	13	14	75	75	0	100	7	
K 666	K2-01 DO YOU WORK WITH FM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	24	22	35	24	18	32	38	38	0	40	12	FM SYSTEMS
K 667	K2-02 DO YOU INSPECT FM TRANSMIT OR RECEIVE SYSTEMS	23	20	38	26	17	32	13	13	0	0	8	
K 668	K2-03 DO YOU CLEAN FM TRANSMIT OR RECEIVE SYSTEMS	15	13	24	16	11	18	13	13	0	0	2	
K 669	K2-04 DO YOU ALIGN FM TRANSMIT OR RECEIVE SYSTEMS	24	20	41	24	18	32	13	13	0	0	10	
K 670	K2-05 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS	25	22	41	26	20	32	25	25	0	20	12	
K 671	K2-06 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE COMPONENTS	20	18	32	20	15	27	25	25	0	20	7	
K 672	K2-07 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS	22	20	35	24	18	32	13	13	0	0	10	
K 673	K2-08 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE COMPONENTS	17	14	30	16	13	27	13	13	0	0	5	
K 674	K2-09 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	8	9	5	7	11	5	13	13	0	20	7	
K 675	K2-10 DO YOU PERFORM TASKS ON FREQUENCY MULTIPLIERS	13	12	14	11	10	18	13	13	0	20	5	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
K 676	K2=11 DO YOU PERFORM TASKS ON DRIVERS (INTERMEDIATE AMPLIFIERS)	12	12	11	11	10	14	13	13	0	20	5	
K 677	K2=12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	16	15	19	15	14	23	25	25	0	20	7	
K 678	K2=13 DO YOU PERFORM TASKS ON RF AMPLIFIERS	17	16	24	16	14	23	13	13	0	20	8	
K 679	K2=14 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	12	12	11	11	11	18	25	25	0	20	5	
K 680	K2=15 DO YOU PERFORM TASKS ON IF AMPLIFIERS	17	16	24	15	15	23	25	25	0	20	8	
K 681	K2=16 DO YOU PERFORM TASKS ON LIMITERS	13	12	16	12	11	18	25	25	0	20	5	
K 682	K2=17 DO YOU PERFORM TASKS ON FREQUENCY DISCRIMINATORS	16	15	19	15	14	23	25	25	0	20	5	
K 683	K2=18 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM TRANSMITTERS	23	21	35	23	17	27	38	38	0	40	8	
K 684	K2=19 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM RECEIVERS	22	20	32	21	17	23	38	38	0	40	8	
K 685	K3=01 DO YOU CONVERT DECIMAL (BASE 10) NUMBERS TO OCTAL (BASE 8) NUMBERS	31	36	8	5	68	9	75	75	0	100	69	NUMBERING SYSTEMS
K 686	K3=02 DO YOU CONVERT DECIMAL NUMBERS TO BINARY (BASE 2) NUMBERS	34	39	14	13	65	9	75	75	0	100	63	
K 687	K3=03 DO YOU CONVERT OCTAL NUMBERS TO DECIMAL NUMBERS	29	34	5	5	61	9	75	75	0	100	61	
K 688	K3=04 DO YOU CONVERT OCTAL NUMBERS TO BINARY NUMBERS	28	32	5	5	56	9	75	75	0	100	56	
K 689	K3=05 DO YOU CONVERT BINARY NUMBERS TO DECIMAL NUMBERS	34	39	11	12	65	9	88	88	50	100	63	
K 690	K3=06 DO YOU CONVERT BINARY NUMBERS TO OCTAL NUMBERS	27	31	5	6	52	9	75	75	0	100	51	
K 691	K3=07 DO YOU ADD BINARY NUMBERS TO GET A SUM	27	30	11	11	46	9	75	75	0	100	42	
K 692	K3=08 DO YOU SUBTRACT BINARY NUMBERS USING THE END-AROUND-CARRY METHOD	17	19	5	6	21	9	63	63	0	100	20	
K 693	K3=09 DO YOU SUBTRACT BINARY NUMBERS USING THE DIRECT SUBTRACTION METHOD	22	25	8	11	31	9	63	63	0	100	25	
K 694	K3=10 DO YOU ADD OCTAL NUMBERS TO GET A SUM	21	24	5	5	39	9	63	63	0	80	39	
L 695	L1=01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO LOGIC FUNCTIONS	23	25	16	18	23	14	75	75	50	100	12	LOGIC FUNCTIONS
L 696	L1=02 DO YOU CONSTRUCT TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	14	16	8	5	15	9	63	63	0	100	10	
L 697	L1=03 DO YOU CONSTRUCT TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	15	16	8	6	15	9	63	63	0	100	10	
L 698	L1=04 DO YOU CONSTRUCT TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	14	16	5	6	15	9	63	63	0	100	10	
L 699	L1=05 DO YOU CONSTRUCT TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS OR GATES	14	16	5	6	15	9	63	63	0	100	10	
L 700	L1=06 DO YOU USE OR REFER TO TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	20	21	11	12	21	9	75	75	50	100	12	
L 701	L1=07 DO YOU USE OR REFER TO TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	20	21	11	12	21	9	75	75	50	100	12	
L 702	L1=08 DO YOU USE OR REFER TO TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	19	21	11	11	21	9	75	75	50	100	12	
L 703	L1=09 DO YOU USE OR REFER TO TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS	16	20	8	11	20	9	75	75	50	100	12	
L 704	L1=10 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR AND GATES	23	25	14	17	24	9	75	75	50	100	14	
L 705	L1=11 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR OR GATES	23	25	14	17	24	9	75	75	50	100	14	
L 706	L1=12 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR NAND OR NOR GATES	23	25	14	17	24	9	75	75	50	100	14	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
L 707	L1-13 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR EXCLUSIVE OR GATES	21	23	11	15	23	9	75	75	50	100	14	
L 708	L2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO BOOLEAN EQUATIONS, LOGIC DIAGRAMS, OR LOGIC CIRCUITS	15	16	11	10	13	9	63	63	0	80	5	BOOLEAN EQUATIONS
L 709	L2-02 DO YOU DRAW LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUITS	5	6	3	2	3	5	38	38	0	60	5	
L 710	L2-03 DO YOU CONSTRUCT TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	6	6	5	2	4	5	25	25	0	40	5	
L 711	L2-04 DO YOU DRAW LOGIC DIAGRAMS FROM GIVEN BOOLEAN EQUATIONS	7	8	3	2	4	5	75	75	0	100	5	
L 712	L2-05 DO YOU MEASURE INPUTS OR OUTPUTS OF LOGIC GATES	10	11	8	6	13	5	25	25	0	40	5	
L 713	L2-06 DO YOU DEVELOP OR ANALYZE BOOLEAN EQUATIONS IN THE PROCESS OF TROUBLESHOOTING DIGITAL CIRCUITS	8	9	3	4	11	5	25	25	0	40	3	
L 714	L2-07 DO YOU ANALYZE LOGIC CIRCUITS BY USING BOOLEAN ALGEBRA	8	10	3	4	11	5	25	25	0	40	5	
L 715	L2-08 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUIT GATES	8	8	8	4	7	5	38	38	0	60	7	
L 716	L2-09 DO YOU USE OR REFER TO TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	6	7	3	4	6	5	25	25	0	40	7	
L 717	L2-10 DO YOU USE OR REFER TO LOGIC DIAGRAMS CONSISTING OF MORE THAN ONE GATE	12	13	8	7	11	5	63	63	0	100	7	
L 718	L2-11 DO YOU COMPUTE SUM AND CARRY EXPRESSIONS FOR SERIAL HALF OR FULL ADDER LOGIC DIAGRAMS	9	9	8	4	7	5	63	63	0	100	7	
L 719	L2-12 DO YOU TRACE DATA FLOW THROUGH PARALLEL FULL ADDER LOGIC DIAGRAMS	11	11	11	5	8	9	63	63	0	100	5	
L 720	L2-13 DO YOU WORK WITH ASTABLE (FREE RUNNING) MULTIVIBRATORS	16	17	11	7	15	14	63	63	0	80	8	
L 721	L2-14 DO YOU WORK WITH BISTABLE (FLIP-FLOP) MULTIVIBRATORS	16	17	11	9	15	14	63	63	0	80	8	
L 722	L2-15 DO YOU WORK WITH MONOSTABLE (ONE-SHOT) MULTIVIBRATORS	16	17	11	9	15	14	63	63	0	80	8	
L 723	L2-16 DO YOU USE OR REFER TO FLIP-FLOP MULTIVIBRATOR SYMBOLS	16	17	11	9	15	9	75	75	0	100	8	
L 724	L2-17 DO YOU USE OR REFER TO SINGLE-SHOT MULTIVIBRATOR SYMBOLS	16	17	11	9	15	9	50	50	0	80	10	
L 725	L2-18 DO YOU USE OR REFER TO FLIP-FLOP CIRCUIT DIAGRAMS	17	18	11	9	15	14	75	75	0	100	8	
L 726	L2-19 DO YOU USE OR REFER TO FLIP-FLOP TRUTH TABLES	13	13	8	4	14	9	50	50	0	80	7	
L 727	L2-20 DO YOU USE OR REFER TO COMPLEMENTED FLIP-FLOP LOGIC SYMBOLS	11	11	14	5	11	9	13	13	0	20	5	
L 728	L2-21 DO YOU USE OR REFER TO COMPLEMENTING FLIP-FLOP LOGIC SYMBOLS	12	12	11	5	13	9	25	25	0	20	5	
L 729	L2-22 DO YOU MEASURE PUT WAVESHAPES OF LOGIC CIRCUITS	13	13	11	7	15	14	38	38	0	40	5	
L 730	L2-23 DO YOU TRACE D FLOW THROUGH COMPLEMENTED FLIP-FLOP SCHEMATIC DIAGRAMS	12	12	11	6	13	14	25	25	0	20	5	
L 731	L2-24 DO YOU TRACE FLOW THROUGH COMPLEMENTING FLIP-FLOP SCHEMATIC D?	12	12	11	5	13	14	25	25	0	20	5	
L 732	L2-25 DO YOU CONS\ TRUTH TABLES FOR J-K FLIP-FLOP LOGIC SYMBOLS	8	8	5	4	10	5	25	25	0	40	3	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
L	733	L3-01 DO YOU WORK WITH DIGITAL COUNTERS IN YOUR PRESENT JOB	17	19	8	15	18	5	63	63	0	80	10	COUNTERS
L	734	L3-02 DO YOU USE OR REFER TO UP-COUNTERS	17	18	11	13	17	9	63	63	0	80	12	
L	735	L3-03 DO YOU USE OR REFER TO DOWN-COUNTERS	16	17	11	11	17	9	63	63	0	80	10	
L	736	L3-04 DO YOU USE OR REFER TO SERIAL COUNTERS	12	13	5	9	13	5	50	50	0	80	8	
L	737	L3-05 DO YOU USE OR REFER TO PARALLEL COUNTERS	13	13	8	9	13	5	50	50	0	80	8	
L	738	L3-06 DO YOU USE OR REFER TO RING COUNTERS	8	10	3	4	13	9	13	13	0	20	3	
L	739	L3-07 DO YOU USE OR REFER TO DECADE COUNTERS	9	10	3	6	11	9	13	13	0	20	3	
L	740	L3-08 DO YOU USE OR REFER TO COUNT DETECT CIRCUITS	11	12	8	10	11	5	25	25	0	20	7	
L	741	L3-09 DO YOU USE OR REFER TO DOWN CLOCKS	12	13	5	10	13	5	38	38	0	60	8	
L	742	L3-10 DO YOU USE OR REFER TO UP CLOCKS	13	14	5	11	13	5	38	38	0	60	8	
L	743	L3-11 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	11	11	8	7	14	5	25	25	0	40	10	
L	744	L3-12 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	8	9	5	5	11	5	25	25	0	40	8	
L	745	L3-13 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF DECADE COUNTERS	8	10	3	5	13	5	13	13	0	20	5	
L	746	L3-14 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF RING COUNTERS	7	7	3	4	10	5	0	0	0	0	3	
L	747	L3-15 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER	9	10	3	7	10	5	38	38	0	60	5	
L	748	L3-16 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	13	15	3	9	15	5	50	50	0	80	8	
L	749	L3-17 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF COUNTERS	12	13	5	6	17	5	50	50	0	60	8	
L	750	L3-18 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	8	8	5	4	10	5	25	25	0	40	8	
L	751	L3-19 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	6	6	3	4	6	5	25	25	0	40	5	
L	752	L3-20 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTERS	7	7	5	5	6	5	38	38	0	60	5	
L	753	L3-21 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR OTHER TYPES OF COUNTERS	8	9	3	4	8	5	50	50	0	60	7	
L	754	L3-22 DO YOU CONSTRUCT TRUTH TABLES FROM LOGIC DIAGRAMS OF DECADE COUNTERS	4	4	3	2	1	5	13	13	0	20	3	
L	755	L3-23 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP IN RING COUNTERS FOR SPECIFIC INPUT PULSES	5	6	3	4	7	5	13	13	0	0	3	
L	756	L3-24 DO YOU DETERMINE THE APPROPRIATE AND GATE NECESSARY IN COUNT DETECT CIRCUITS TO INDICATE A REQUIRED COUNT	7	7	5	4	7	5	38	38	0	40	7	
M	757	M1-01 DO YOU WORK WITH SAWTOOTH WAVE GENERATORS	55	57	46	46	63	50	75	75	0	100	59	TIMING
M	758	M1-02 DO YOU WORK WITH TRAPEZOIDAL WAVE GENERATORS	27	28	24	23	20	18	63	63	0	100	17	
M	759	M1-03 DO YOU WORK WITH PULSED OSCILLATORS WITH REGENERATIVE FEEDBACK	37	36	41	32	35	32	63	63	0	80	27	CIRCUITS
M	760	M1-04 DO YOU WORK WITH PULSED OSCILLATORS WITHOUT REGENERATIVE FEEDBACK	32	32	30	27	28	36	50	50	0	80	22	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
M 761	M1-05 DO YOU WORK WITH BLOCKING OSCILLATORS	52	53	46	38	63	46	75	75	0	100	59	
M 762	M1-06 DO YOU USE OR REFER TO RISE TIME	38	39	35	32	35	36	75	75	50	100	29	
M 763	M1-07 DO YOU USE OR REFER TO FALL OR FLYBACK TIME	36	36	32	32	31	32	75	75	50	100	25	
M 764	M1-08 DO YOU USE OR REFER TO SWEEP TIME	56	58	46	45	66	50	88	88	50	100	64	
M 765	M1-09 DO YOU USE OR REFER TO ELECTRICAL LENGTH OF SAWTOOTH WAVEFORMS	51	52	43	40	59	45	88	88	50	100	56	
M 766	M1-10 DO YOU USE OR REFER TO PHYSICAL LENGTH OF SAWTOOTH WAVEFORMS	50	51	41	38	61	32	88	88	50	100	56	
M 767	M1-11 DO YOU USE OR REFER TO LINEAR SLOPE OF SAWTOOTH WAVEFORMS	44	44	43	32	51	41	75	75	0	100	44	
M 768	M1-12 DO YOU USE OR REFER TO GATE LENGTH OF SAWTOOTH WAVEFORMS	44	45	38	37	45	36	88	88	50	100	37	
M 769	M2-01 DO YOU USE SIGNAL GENERATORS IN YOUR PRESENT JOB	25	26	22	20	27	18	75	75	50	80	24	USE OF SIGNAL GENERATORS
M 770	M2-02 DO YOU PERFORM OPERATIONAL CHECKS WHILE USING SIGNAL GENERATORS	22	22	19	16	27	14	50	50	50	40	24	
M 771	M2-03 DO YOU PERFORM PERIODIC MAINTENANCE SUCH AS ADJUSTING, ALIGNING, OR CALIBRATING WHILE USING SIGNAL GENERATORS	17	17	22	15	21	18	25	25	50	0	17	
M 772	M2-04 DO YOU TROUBLESHOOT TO AN ASSEMBLY OR SUBASSEMBLY WHILE USING SIGNAL GENERATORS	20	20	19	16	27	14	36	38	50	20	22	
M 773	M2-05 DO YOU TROUBLESHOOT TO THE SMALLEST REPLACEABLE COMPONENT WHILE USING SIGNAL GENERATORS	9	9	11	6	11	0	13	13	0	0	5	
M 774	M2-06 DO YOU USE AUDIO SINE-WAVE GENERATORS	12	13	8	7	11	0	50	50	0	60	12	
M 775	M2-07 DO YOU USE AUDIO NON-SINUSOIDAL WAVE GENERATORS SUCH AS SQUARE WAVE, TRIANGLE, PULSE, OR SPIKE	12	13	5	6	14	0	50	50	0	60	12	
M 776	M2-08 DO YOU USE RF GENERATORS LESS THAN 1,000 MH	14	13	19	7	17	9	50	50	50	60	15	
M 777	M2-09 DO YOU USE RF GENERATORS GREATER THAN 1,000 MH	17	18	16	13	23	18	13	13	0	0	17	
M 778	M2-10 DO YOU USE OTHER SPECIAL PURPOSE OR MULTI-FUNCTION GENERATORS	13	13	11	9	15	9	25	25	0	20	10	
M 779	M3-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH ALTERNATING CURRENT OR DIRECT CURRENT MOTORS OR GENERATORS	32	32	32	20	32	50	50	50	0	60	25	MOTORS AND GENERATORS
M 780	M3-02 DO YOU INSPECT MOTORS	25	24	32	16	30	45	13	13	0	0	17	
M 781	M3-03 DO YOU CLEAN OR LUBRICATE MOTORS	17	16	27	11	18	36	0	0	0	0	7	
M 782	M3-04 DO YOU OPERATE MOTORS	24	24	27	15	24	41	25	25	0	20	14	
M 783	M3-05 DO YOU REMOVE OR REPLACE COMPLETE MOTORS	22	21	30	12	28	41	0	0	0	0	17	
M 784	M3-06 DO YOU REMOVE OR REPLACE MOTOR PARTS	8	7	8	4	10	23	13	13	0	0	3	
M 785	M3-07 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF MOTORS	26	26	24	18	30	36	13	13	0	0	20	
M 786	M3-08 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF MOTORS	7	8	3	5	10	9	0	0	0	0	7	
M 787	M3-09 DO YOU PERFORM ANY TASKS ON FIELD COILS	5	5	3	2	6	5	13	13	0	20	7	
M 788	M3-10 DO YOU PERFORM ANY TASKS ON ARMATURES	5	5	3	2	6	5	13	13	0	20	7	
M 789	M3-11 DO YOU PERFORM ANY TASKS ON ROTORS	5	6	3	2	6	5	13	13	0	20	7	
M 790	M3-12 DO YOU PERFORM ANY TASKS ON BRUSHES	6	5	3	1	6	9	13	13	0	20	5	
M 791	M3-13 DO YOU PERFORM ANY TASKS ON SLIP RINGS	5	6	3	2	6	9	13	13	0	20	7	
M 792	M3-14 DO YOU PERFORM ANY TASKS ON COMMUTATORS	4	5	3	1	6	5	13	13	0	20	7	
M 793	M3-15 DO YOU PERFORM ANY TASKS ON POLE PIECES	4	5	3	1	7	5	13	13	0	0	7	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
N 794	M3-16 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OF THE FORCE OR TORQUE CREATED BY A MOTOR	5	5	5	1	8	5	25	25	0	40	5	
N 795	M3-17 DO YOU DETERMINE OR MEASURE THE DIRECTION OF THE MECHANICAL FORCE OR TORQUE CREATED BY A MOTOR	9	9	11	1	11	14	38	38	0	60	5	
N 796	M3-18 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OR DIRECTION OF THE INDUCED VOLTAGE IN MOTORS	10	10	14	1	13	14	38	38	0	60	5	
N 797	M3-19 DO YOU WORK WITH SYNCHRONOUS MOTORS	19	18	24	7	15	36	25	25	0	20	10	
N 798	M3-20 DO YOU WORK WITH INDUCTION MOTORS	21	20	24	10	17	32	38	38	0	60	12	
N 799	M3-21 DO YOU WORK WITH SPLIT-PHASE MOTORS	15	17	8	5	14	23	50	50	0	60	10	
N 800	M3-22 DO YOU WORK WITH SOME COMBINATION OF THE ABOVE MOTORS	21	22	19	13	20	27	38	38	0	40	10	
N 801	M3-23 DO YOU INSPECT GENERATORS	12	12	8	7	15	9	13	13	0	0	8	
N 802	M3-24 DO YOU CLEAN OR LUBRICATE GENERATORS	7	7	3	5	8	5	0	0	0	0	2	
N 803	M3-25 DO YOU OPERATE GENERATORS	14	14	11	9	15	14	25	25	0	20	8	
N 804	M3-26 DO YOU REMOVE OR REPLACE COMPLETE GENERATORS	8	9	5	2	14	5	13	13	0	0	5	
N 805	M3-27 DO YOU REMOVE OR REPLACE GENERATOR PARTS	4	4	3	2	6	0	13	13	0	0	2	
N 806	M3-28 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF GENERATORS	13	14	11	7	17	5	13	13	0	0	8	
N 807	M3-29 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF GENERATORS	4	4	0	2	4	0	0	0	0	0	2	
N 808	M1-01 DO YOU WORK WITH METERS IN YOUR PRESENT JOB	72	72	76	67	72	73	88	88	50	100	71	METER MOVEMENTS
N 809	M1-02 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF PERMANENT MAGNETS	15	16	8	7	15	14	63	63	0	80	14	
N 810	M1-03 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF MOVING COILS	15	17	8	7	17	18	63	63	0	80	15	
N 811	M1-04 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF SPIRAL SPRINGS	13	14	3	9	11	14	38	38	0	60	12	
N 812	M1-05 DO YOU READ METER SCALES	73	73	73	68	73	73	88	88	50	100	73	
N 813	M1-06 DO YOU EXTEND THE RANGE OF AMMETERS	29	30	24	20	34	36	75	75	0	100	29	
N 814	M1-07 DO YOU ZERO OHMMETERS	70	70	70	67	72	73	88	88	50	100	71	
N 815	M1-08 DO YOU ZERO AMMETERS	35	35	35	29	38	50	63	63	50	60	32	
N 816	M1-09 DO YOU EXTEND THE RANGE OF VOLTMETERS	43	43	41	37	41	55	75	75	0	100	37	
N 817	M1-10 DO YOU USE OR REFER TO VOLTMETER SENSITIVITY (EXPRESSED IN UNITS OF OHMS PER VOLT)	41	44	27	33	49	50	63	63	0	80	46	
N 818	M2-01 DO YOU WORK WITH SATURABLE REACTORS OR MAGNETIC AMPLIFIERS IN YOUR PRESENT JOB	25	24	30	11	21	27	63	63	0	100	8	
N 819	M2-02 DO YOU INSPECT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	16	14	24	7	20	27	0	0	0	0	5	
N 820	M2-03 DO YOU CLEAN MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	10	10	11	4	11	18	0	0	0	0	5	
N 821	M2-04 DO YOU ADJUST MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	14	12	24	7	13	27	0	0	0	0	5	
N 822	M2-05 DO YOU TROUBLESHOOT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	17	14	30	9	17	27	0	0	0	0	5	
N 823	M2-06 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	18	15	32	6	21	32	0	0	0	0	7	
N 824	M2-07 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIER OR SATURABLE REACTOR COMPONENTS	6	6	5	2	10	14	0	0	0	0	3	SATURABLE REACTORS AND MAGNETIC AMPLIFIERS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
N	825	N2-08 DO YOU USE OR REFER TO HYSTERESIS CURVES OR LOOPS	6	6	3	1	7	5	50	50	0	80	3	
N	826	N2-09 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE REACTORS	13	14	11	4	10	18	63	63	0	100	7	
N	827	N2-10 DO YOU MEASURE OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE REACTORS	12	11	16	4	13	23	25	25	0	40	5	
N	828	N2-11 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS FOR MAGNETIC AMPLIFIERS	13	13	11	4	11	9	63	63	0	80	7	
N	829	N2-12 DO YOU USE OR REFER TO COERCIVE FORCE IN SATURABLE REACTORS	2	3	0	1	0	0	50	50	0	80	0	
N	830	N2-13 DO YOU USE OR REFER TO RESIDUAL MAGNETISM IN SATURABLE REACTORS	4	5	0	1	1	0	63	63	0	100	2	
N	831	N2-14 DO YOU USE OR REFER TO FLUX DENSITY IN SATURABLE REACTORS	5	6	0	2	0	0	63	63	0	100	2	
N	832	N2-15 DO YOU USE OR REFER TO POINT OF SATURATION IN SATURABLE REACTORS	7	7	3	4	4	0	75	75	0	100	0	
N	833	N2-16 DO YOU USE OR REFER TO SATURABLE REACTOR SCHEMATIC SYMBOLS	13	12	16	4	11	23	75	75	0	100	3	
N	834	N3-01 DO YOU WORK WITH WAVESHAPING CIRCUITS IN YOUR PRESENT JOB	54	53	59	43	56	64	75	75	0	100	53	WAVESHAPING CIRCUITS
N	835	N3-02 DO YOU USE OR REFER TO TRANSIENT INTERVALS	27	27	24	20	27	36	63	63	0	100	22	
N	836	N3-03 DO YOU USE OR REFER TO PULSE WIDTH (PW)	53	51	59	39	56	64	75	75	0	100	53	
N	837	N3-04 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	46	45	49	34	44	55	75	75	0	100	39	
N	838	N3-05 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	54	52	59	39	56	64	75	75	0	100	53	
N	839	N3-06 DO YOU USE OR REFER TO DIFFERENTIATING CIRCUITS	33	34	32	24	32	36	75	75	0	100	24	
N	840	N3-07 DO YOU USE OR REFER TO INTEGRATING CIRCUITS	41	41	41	30	39	45	75	75	0	100	36	
N	841	N3-08 DO YOU USE OR REFER TO THE CLASSIFICATION OF TIME CONSTANTS (TC) AS LONG, MEDIUM, OR SHORT	35	35	38	23	34	41	63	63	0	100	34	
N	842	N3-09 DO YOU DETERMINE WHETHER AN LR OR RC CIRCUIT IS DIFFERENTIATING OR INTEGRATING BASED ON THE TIME CONSTANT AND OUTPUT CONFIGURATION	17	17	14	9	11	18	63	63	0	100	10	
N	843	N3-10 DO YOU WORK WITH SQUARE WAVE GENERATORS	34	34	38	22	32	45	75	75	0	100	22	
N	844	N3-11 DO YOU WORK WITH RECTANGULAR WAVE GENERATORS	23	21	32	15	20	23	38	38	0	60	12	
O	845	O1-01 DO YOU WORK ON SINGLE SIDEBAND SYSTEMS IN YOUR PRESENT JOB	2	2	5	2	1	9	0	0	0	0	2	SINGLE SIDEBAND SYSTEMS
O	846	O1-02 DO YOU INSPECT SSB TRANSMIT OR RECEIVE SYSTEMS	1	1	3	2	0	5	0	0	0	0	0	
O	847	O1-03 DO YOU CLEAN SSB TRANSMIT OR RECEIVE SYSTEMS	1	1	3	1	0	5	0	0	0	0	0	
O	848	O1-04 DO YOU ALIGN SSB TRANSMIT OR RECEIVE SYSTEMS	1	1	3	1	0	5	0	0	0	0	0	
O	849	O1-05 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE SYSTEMS	1	1	3	1	0	5	0	0	0	0	0	
O	850	O1-06 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE COMPONENTS	1	1	3	1	0	5	0	0	0	0	0	
O	851	O1-07 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	3	0	0	5	0	0	0	0	0	
O	852	O1-08 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE COMPONENTS	1	1	3	1	0	5	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063
0 853	01-09 DO YOU PERFORM TASKS ON SSB AUDIO AMPLIFIERS	1	1	3	1	0	5	0	0	0	0	0
0 854	01-10 DO YOU PERFORM TASKS ON SSB BALANCED MODULATORS	1	1	3	1	0	5	0	0	0	0	0
0 855	01-11 DO YOU PERFORM TASKS ON SSB CARRIER OSCILLATORS	1	1	3	1	0	5	0	0	0	0	0
0 856	01-12 DO YOU PERFORM TASKS ON SSB LC FILTERS	1	1	3	1	0	5	0	0	0	0	0
0 857	01-13 DO YOU PERFORM TASKS ON SSB CRYSTAL FILTERS	1	1	3	1	0	5	0	0	0	0	0
0 858	01-14 DO YOU PERFORM TASKS ON SSB MECHANICAL FILTERS	1	1	3	1	0	5	0	0	0	0	0
0 859	01-15 DO YOU PERFORM TASKS ON SSB OSCILLATORS	1	1	3	2	0	5	0	0	0	0	0
0 860	01-16 DO YOU PERFORM TASKS ON SSB MIXERS	1	1	3	2	0	5	0	0	0	0	0
0 861	01-17 DO YOU PERFORM TASKS ON SSB DRIVERS	1	1	3	1	0	5	0	0	0	0	0
0 862	01-18 DO YOU PERFORM TASKS ON SSB POWER AMPLIFIERS	1	1	3	2	0	5	0	0	0	0	0
0 863	01-19 DO YOU PERFORM TASKS ON SSB RF AMPLIFIERS	1	1	3	1	0	5	0	0	0	0	0
0 864	01-20 DO YOU PERFORM TASKS ON SSB FREQUENCY CONVERTERS	1	1	3	1	0	5	0	0	0	0	0
0 865	01-21 DO YOU PERFORM TASKS ON SSB IF AMPLIFIERS	1	1	3	2	0	5	0	0	0	0	0
0 866	01-22 DO YOU PERFORM TASKS ON SSB DEMODULATORS	1	1	3	2	0	5	0	0	0	0	0
0 867	01-23 DO YOU PERFORM TASKS ON SSB DON'T REMEMBER WHICH SSB SYSTEM STAGES	1	1	3	1	0	5	0	0	0	0	0
0 868	01-24 DO YOU USE OR REFER TO SELECTIVE FADING	0	0	3	0	0	5	0	0	0	0	0
0 869	01-25 DO YOU USE OR REFER TO PEAK POWER	1	1	3	1	0	5	0	0	0	0	0
0 870	01-26 DO YOU USE OR REFER TO FREQUENCY STABILITY	1	1	3	1	0	5	0	0	0	0	0
0 871	01-27 DO YOU USE OR REFER TO RESPONSE CURVES FOR BANDWIDTH FILTERS	1	1	3	1	0	5	0	0	0	0	0
0 872	01-28 DO YOU CALCULATE PEAK POWER OR EFFECTIVE POWER OF SSB TRANSMITTERS	0	0	3	0	0	5	0	0	0	0	0
0 873	01-29 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB TRANSMITTER SCHEMATIC DIAGRAMS	1	1	3	1	0	5	0	0	0	0	0
0 874	01-30 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB RECEIVER SCHEMATIC DIAGRAMS	1	1	3	1	0	5	0	0	0	0	0
0 875	02-01 DO YOU WORK ON PULSE MODULATION SYSTEMS IN YOUR PRESENT JOB	38	36	49	30	39	55	25	25	0	20	25
0 876	02-02 DO YOU INSPECT PULSE MODULATION SYSTEMS	29	27	41	23	31	45	13	13	0	0	17
0 877	02-03 DO YOU CLEAN PULSE MODULATION SYSTEMS	20	17	35	13	18	36	0	0	0	0	5
0 878	02-04 DO YOU ALIGN PULSE MODULATION SYSTEMS	34	32	46	28	35	55	13	13	0	0	22
0 879	02-05 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS	35	33	46	27	39	55	13	13	0	0	25
0 880	02-06 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEM COMPONENTS	28	27	32	23	31	41	13	13	0	0	17
0 881	02-07 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS	33	31	46	26	38	50	13	13	0	0	24
0 882	02-08 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEM COMPONENTS	25	24	32	20	27	45	0	0	0	0	14
0 883	02-09 DO YOU WORK ON PULSE-AMPLITUDE MODULATION (PAM) SYSTEMS	13	12	19	11	11	23	13	13	0	0	5
0 884	02-10 DO YOU WORK ON PULSE-DURATION MODULATION (PDM) SYSTEMS	13	12	19	11	13	27	0	0	0	0	5
0 885	02-11 DO YOU WORK ON PULSE-POSITION MODULATION (PPM) SYSTEMS	8	7	8	4	8	14	0	0	0	0	3
0 886	02-12 DO YOU WORK ON PULSE-CODE MODULATION (PCM) SYSTEMS	5	4	11	2	3	9	0	0	0	0	2
0 887	02-13 DO YOU WORK ON LINE PULSING MODULATION SYSTEMS	6	5	11	4	6	14	0	0	0	0	2
0 888	02-14 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF MODULATION SYSTEM	17	16	24	15	17	23	13	13	0	0	14

PULSE MODULATION SYSTEMS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
0 889	02-15 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER SUPPLIES	26	25	35	21	28	36	13	13	0	0	17	
0 890	02-16 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM CHARGING CHOKES AND CHARGING DIODES	17	16	24	13	17	27	0	0	0	0	6	
0 891	02-17 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE FORMING NETWORKS	28	27	32	21	32	32	13	13	0	0	19	
0 892	02-18 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TIMERS	19	18	27	17	18	32	13	13	0	0	10	
0 893	02-19 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM SWITCHES SUCH AS GAS THYRATRONS	20	19	27	13	28	32	13	13	0	0	15	
0 894	02-20 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE TRANSFORMERS	26	24	38	20	30	36	13	13	0	0	17	
0 895	02-21 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TRANSMITTER TUBES	28	26	35	23	31	41	13	13	0	0	17	
0 896	02-22 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM RF AMPLIFIERS	31	29	38	24	35	41	13	13	0	0	22	
0 897	02-23 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM FREQUENCY CONVERTERS	22	20	30	15	27	32	13	13	0	0	14	
0 898	02-24 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM IF AMPLIFIERS	28	25	41	18	31	46	13	13	0	0	17	
0 899	02-25 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DETECTORS	26	24	30	20	32	32	13	13	0	0	19	
0 900	02-26 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM VIDEO AMPLIFIERS	29	28	35	22	35	36	13	13	0	0	22	
0 901	02-27 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER VIDEO AMPLIFIERS	24	23	30	18	30	32	13	13	0	0	17	
0 902	02-28 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DON'T REMEMBER WHICH PULSE MODULATION SYSTEM STAGES	8	9	8	9	10	9	13	13	0	0	5	
0 903	02-29 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	38	35	49	28	39	55	25	25	0	20	25	
0 904	02-30 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	30	29	35	24	28	45	25	25	0	20	15	
0 905	02-31 DO YOU USE OR REFER TO PULSE WIDTH (PW)	35	33	46	26	38	50	25	25	0	20	25	
0 906	02-32 DO YOU USE OR REFER TO PULSE SHAPE	32	32	35	23	37	41	25	25	0	20	24	
0 907	02-33 DO YOU USE OR REFER TO PEAK POWER	31	31	32	26	37	41	25	25	0	20	24	
0 908	02-34 DO YOU USE OR REFER TO AVERAGE POWER	29	28	30	24	30	41	25	25	0	20	17	
0 909	02-35 DO YOU CALCULATE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	19	19	16	15	24	18	25	25	0	20	12	
0 910	02-36 DO YOU MEASURE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	28	27	32	20	28	36	25	25	0	20	15	
0 911	02-37 DO YOU USE FORMULAS TO CALCULATE AVERAGE POWER OR PEAK POWER OF PULSE MODULATION TRANSMIT SYSTEMS	14	14	11	10	21	14	25	25	0	20	10	
0 912	02-38 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION TRANSMITTER SCHEMATIC DIAGRAMS	32	31	38	24	34	36	25	25	0	20	20	
0 913	02-39 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION RECEIVER SCHEMATIC DIAGRAMS	36	34	46	27	38	50	25	25	0	20	25	
0 914	03-01 DO YOU WORK WITH ANTENNAS IN YOUR PRESENT JOB	78	75	89	79	76	86	63	63	50	60	71	ANTENNAS
0 915	03-02 DO YOU INSPECT ANTENNAS	71	68	86	78	73	86	25	25	50	0	63	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063
0 916	03-03 DO YOU CLEAN ANTENNAS	56	52	73	66	44	73	25	25	50	0	29
0 917	03-04 DO YOU PHYSICALLY ALIGN ANTENNAS	70	69	76	70	77	73	25	25	50	0	71
0 918	03-05 DO YOU ELECTRICALLY ALIGN ANTENNAS	71	69	81	74	70	86	25	25	50	0	64
0 919	03-06 DO YOU TROUBLESHOOT TO ANTENNAS	75	74	84	80	79	86	38	38	50	20	71
0 920	03-07 DO YOU TROUBLESHOOT TO ANTENNA COMPONENTS	66	64	76	66	73	77	25	25	0	20	64
0 921	03-08 DO YOU REMOVE OR INSTALL ANTENNAS	73	72	76	79	79	82	25	25	50	0	71
0 922	03-09 DO YOU REMOVE OR REPLACE COMPONENTS OF ANTENNAS	65	62	81	65	72	73	13	13	0	0	61
0 923	03-10 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF E OR ELECTRIC FIELD LINES	16	16	16	11	14	27	38	38	0	60	14
0 924	03-11 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF H OR MAGNETIC FIELD LINES	15	15	16	10	13	27	38	38	0	60	12
0 925	03-12 DO YOU DETERMINE THE DIRECTION OF THE MAGNETIC LINES IN RELATION TO THE ELECTRIC LINES OF FORCE FOR ANTENNAS	11	11	11	7	8	14	38	38	0	60	8
0 926	03-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE OF CORRECT LENGTH (HALF-WAVE) ACT AS INDUCTIVE LOADS TO THE GENERATOR	10	12	3	10	8	9	38	38	0	60	8
0 927	03-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE LONGER THAN A HALF-WAVE ACT AS INDUCTIVE LOADS TO THE GENERATOR	9	10	5	6	10	9	50	50	0	60	7
0 928	03-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE SHORTER THAN A HALF-WAVE ACT AS CAPACITIVE LOADS TO THE GENERATOR	8	8	5	6	4	9	50	50	0	60	3
0 929	03-16 DO YOU WORK WITH HERTZ ANTENNAS	13	14	11	7	15	18	38	38	0	40	19
0 930	03-17 DO YOU WORK WITH MARCONI ANTENNAS	3	3	3	1	1	5	25	25	0	40	3
0 931	03-18 DO YOU WORK WITH BROADSIDE ARRAYS	5	5	5	6	0	9	25	25	0	40	2
0 932	03-19 DO YOU WORK WITH END-FIRE ARRAYS	8	7	8	4	3	18	25	25	0	40	5
0 933	03-20 DO YOU WORK WITH CARDIOID ARRAYS	4	4	3	2	0	9	25	25	0	40	2
0 934	03-21 DO YOU WORK WITH COLLINEAR ARRAYS	9	8	16	9	6	14	38	38	0	40	3
0 935	03-22 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC INDUCTION FIELDS WHEN WORKING WITH ANTENNAS	8	7	14	5	6	18	38	38	0	40	5
0 936	03-23 DO YOU MEASURE ELECTROMAGNETIC INDUCTION FIELDS OF ANTENNAS	7	6	11	6	3	18	13	13	0	20	5
0 937	03-24 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC RADIATION FIELDS WHEN WORKING WITH ANTENNAS	14	13	22	6	13	27	38	38	0	40	7
0 938	03-25 DO YOU MEASURE ELECTROMAGNETIC RADIATION FIELDS OF ANTENNAS	7	7	8	7	6	14	0	0	0	0	7
0 939	03-26 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA RADIATION	9	8	16	5	7	27	50	50	0	60	3
0 940	03-27 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA INDUCTION FIELD	8	6	14	5	4	23	38	38	0	60	3
0 941	03-28 ARE ANY OF THE ANTENNAS YOU WORK ON LINEARLY POLARIZED	39	35	59	54	11	73	0	0	0	0	5
0 942	03-29 ARE ANY OF THE ANTENNAS YOU WORK ON CIRCULARLY POLARIZED	41	37	59	57	13	82	13	13	0	0	3
0 943	03-30 DO YOU MEASURE OR DETERMINE THE POLARITY OF ANTENNAS YOU WORK ON	25	24	30	37	10	50	13	13	0	0	3
0 944	03-31 DO YOU CONSTRUCT, OR MAKE THE CALCULATIONS NECESSARY TO CONSTRUCT, ANTENNAS OF CORRECT LENGTH FOR SPECIFIC WAVELENGTHS	4	4	3	4	3	5	25	25	0	40	3

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063
O 945	03-32 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS	11	9	22	9	7	23	13	13	0	20	3
O 946	03-33 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS DIRECTORS	11	8	24	7	6	23	13	13	0	20	3
O 947	03-34 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS REFLECTORS	15	13	22	11	10	14	13	13	0	20	5
O 948	03-35 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN DON'T REMEMBER WHAT KIND OF ELEMENTS	30	28	38	33	28	41	13	13	0	0	19
O 949	03-36 DO YOU WORK ON UNIDIRECTIONAL ANTENNAS	27	24	43	22	25	32	25	25	0	40	25
O 850	03-37 DO YOU WORK ON BIDIRECTIONAL ANTENNAS	16	17	14	12	18	18	38	38	0	40	14
O 851	03-38 DO YOU WORK ON DON'T REMEMBER THE DIRECTIONALITY	24	23	30	27	20	32	0	0	0	0	19
O 852	03-39 DO YOU WORK WITH ROTAR ANTENNA ARRAYS	18	18	22	20	21	27	0	0	0	0	19
P 953	P1-01 IN YOUR PRESENT JOB DO YOU WORK WITH TRANSMISSION LINES (TRANSMISSION LINES ARE DEFINED TO INCLUDE LEADS BETWEEN RECEIVERS AND ANTENNAS, TELEPHONE LEADS, AS WELL AS HIGH VOLTAGE POWER LINES, ETC. DO NOT CONSIDER WAVEGUIDES AS TRANSMISSION LINES	21	21	19	17	25	18	50	50	0	60	19
P 954	P1-02 DO YOU REFER TO OR USE COPPER LOSS OR I2R LOSS IN TRANSMISSION LINES	5	6	3	2	6	5	38	38	0	60	5
P 955	P1-03 DO YOU REFER TO OR USE SKIN EFFECTS OF HIGH FREQUENCY CURRENTS IN TRANSMISSION LINES	5	6	3	4	4	5	38	38	0	60	7
P 956	P1-04 DO YOU REFER TO OR USE RADIATION LOSS IN TRANSMISSION LINES	9	10	5	5	11	9	50	50	0	60	8
P 957	P1-05 DO YOU USE OR REFER TO DIELECTRIC LOSS IN TRANSMISSION LINES	7	8	0	6	7	5	50	50	0	60	5
P 958	P1-06 DO YOU USE OR REFER TO LEAKAGE LOSSES IN TRANSMISSION LINES	10	10	14	6	10	9	50	50	0	60	8
P 959	P1-07 DO YOU WORK WITH TWISTED PAIR TRANSMISSION LINES	6	7	3	1	14	0	0	0	0	0	7
P 960	P1-08 DO YOU WORK WITH TWIN LEAD TRANSMISSION LINES	6	7	3	1	13	0	25	25	0	20	7
P 961	P1-09 DO YOU WORK WITH OPEN TWO-WIRE TRANSMISSION LINES	4	5	3	1	6	0	25	25	0	40	7
P 962	P1-10 DO YOU WORK WITH FLEXIBLE COAXIAL CABLE TRANSMISSION LINES	19	19	16	15	25	5	38	38	0	40	19
P 963	P1-11 DO YOU WORK WITH RIGID COAXIAL CABLE TRANSMISSION LINES	11	11	8	11	13	5	25	25	0	20	7
P 964	P1-12 DO YOU TROUBLESHOOT TRANSMISSION LINES	15	15	14	11	24	5	13	13	0	0	15
P 965	P1-13 DO YOU ANALYZE VOLTAGE OR CURRENT WAVEFORMS IN TRANSMISSION LINES TO DETERMINE THE TYPE OF TERMINATION (OPEN, SHORTED, CAPACITIVE, INDUCTIVE)	6	7	0	2	8	5	50	50	0	60	10
P 966	P1-14 DO YOU SELECT APPROPRIATE TRANSMISSION LINES TERMINATIONS TO ACHIEVE DESIRED WAVEFORMS	4	5	3	0	7	5	38	38	0	40	3
P 967	P1-15 DO YOU USE OR REFER TO SCHEMATIC SYMBOLS FOR LINE TERMINATIONS IN TERMS OF CIRCUIT TERMINATIONS	8	10	3	2	11	5	50	50	0	60	8
P 968	P1-16 DO YOU MEASURE STANDING WAVE RATIOS (SR) OF TRANSMISSION LINES	5	6	0	4	7	5	25	25	0	20	5
P 969	P1-17 DO YOU CALCULATE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES	4	4	0	1	3	5	25	25	0	40	3
P 970	P1-18 DO YOU PERFORM THE CALCULATIONS NECESSARY TO DETERMINE THE IMPEDANCE AND LENGTH OF QUARTER - WAVELENGTH MATCHING TRANSFORMERS TO MATCH TRANSMISSION LINES TO LOADS	3	4	0	0	4	5	25	25	0	40	3

TRANSMISSION LINES

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063
P 971	P1-19 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING MATCHING TRANSFORMERS	5	5	5	0	7	0	13	13	0	20	3
P 972	P1-20 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING DELTA MATCHING	3	3	0	0	4	0	25	25	0	20	3
P 973	P1-21 DO YOU SELECT THE TYPE OF TRANSMISSION LINE NEEDED FOR PARTICULAR JOBS WITHOUT REFERRING TO TECHNICAL DATA	2	2	5	0	3	0	0	0	0	0	3
P 974	P1-22 DO YOU USE OR REFER TO THE TERM CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES	6	6	3	1	7	0	50	50	0	60	5
P 975	P1-23 DO YOU CALCULATE THE CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES	2	3	0	0	1	0	25	25	0	40	3
P 976	P1-24 DO YOU USE OR REFER TO THE TERM CUTOFF FREQUENCY OF TRANSMISSION LINES	3	3	0	1	3	0	25	25	0	40	2
P 977	P1-25 DO YOU USE OR REFER TO THE TERM VELOCITY FACTOR (K) OF TRANSMISSION LINES	2	2	0	0	1	0	25	25	0	40	2
P 978	P1-26 DO YOU COMPUTE THE ELECTRICAL LENGTH OF TRANSMISSION LINES FOR PARTICULAR FREQUENCIES	4	5	0	1	4	0	25	25	0	40	5
P 979	P1-27 DO YOU CONSTRUCT TRANSMISSION LINES OF PARTICULAR ELECTRICAL LENGTH FOR GIVEN FREQUENCIES	2	3	0	0	4	0	13	13	0	20	2
P 980	P1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT AS THE FREQUENCY INCREASES AND THE PHYSICAL LENGTH OF TRANSMISSION LINES REMAIN CONSTANT, THE ELECTRICAL LENGTH INCREASES	5	6	0	0	6	0	50	50	0	60	5
P 981	P1-29 DO YOU WORK WITH NONRESONANT (FLAT) TRANSMISSION LINES	2	2	3	1	3	0	13	13	0	0	2
P 982	P1-30 DO YOU WORK WITH RESONANT TRANSMISSION LINES	5	5	5	5	4	0	13	13	0	0	5
P 983	P1-31 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING STUB MATCHING	4	5	0	1	7	0	0	0	0	0	5
P 984	P2-01 DO YOU WORK WITH WAVEGUIDES OR CAVITY RESONATORS IN YOUR PRESENT JOB	75	73	86	73	77	82	50	50	50	40	75
P 985	P2-02 DO YOU INSPECT WAVEGUIDES OR CAVITY RESONATORS	68	66	78	71	76	77	25	25	50	0	68
P 986	P2-03 DO YOU CLEAN WAVEGUIDES OR CAVITY RESONATORS	44	41	59	46	44	55	25	25	50	0	36
P 987	P2-04 DO YOU BEND WAVEGUIDES OR CAVITY RESONATORS	20	21	16	20	24	14	13	13	0	0	22
P 988	P2-05 DO YOU TWIST WAVEGUIDES OR CAVITY RESONATORS	15	14	16	15	15	14	13	13	0	0	14
P 989	P2-06 DO YOU PRESSURIZE WAVEGUIDES OR CAVITY RESONATORS	70	66	86	68	75	82	25	25	50	0	68
P 990	P2-07 DO YOU PURGE WAVEGUIDES OR CAVITY RESONATORS	26	29	11	22	46	5	13	13	0	0	41
P 991	P2-08 DO YOU TROUBLESHOOT WAVEGUIDES OR CAVITY RESONATORS	64	63	73	62	76	73	25	25	50	0	71
P 992	P2-09 DO YOU REMOVE OR INSTALL COMPLETE WAVEGUIDES	71	68	84	71	79	77	25	25	50	0	69
P 993	P2-10 DO YOU REMOVE OR INSTALL WAVEGUIDE SECTIONS	68	65	81	71	73	77	25	25	50	0	68
P 994	P2-11 DO YOU REMOVE OR INSTALL DUMMY LOADS	61	60	62	59	75	68	25	25	50	0	68
P 995	P2-12 DO YOU REMOVE OR INSTALL E BENDS	21	21	22	16	23	32	13	13	0	0	15
P 996	P2-13 DO YOU REMOVE OR INSTALL H BENDS	21	22	16	18	24	27	13	13	0	0	17
P 997	P2-14 DO YOU REMOVE OR INSTALL OTHER BENDS	38	37	41	37	44	41	13	13	0	0	31
P 998	P2-15 DO YOU REMOVE OR INSTALL CHOKE JOINTS	16	16	16	13	17	9	0	0	0	0	14
P 999	P2-16 DO YOU REMOVE OR INSTALL ROTATING JOINTS	32	27	54	34	18	59	0	0	0	0	17
P1000	P2-17 DO YOU REMOVE OR INSTALL DIRECTIONAL COUPLERS	52	48	73	41	63	73	13	13	0	0	56
P1001	P2-18 DO YOU REMOVE OR INSTALL BIDIRECTIONAL COUPLERS	32	30	41	30	31	36	0	0	0	0	29
P1002	P2-19 DO YOU USE OR REFER TO "A" WALL OF WAVEGUIDES	8	9	3	4	8	9	25	25	0	40	10

WAVEGUIDES AND CAVITY RESONATORS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063
P1003	P2-20 DO YOU USE OR REFER TO "B" WALL OF WAVEGUIDES	8	9	3	4	8	9	25	25	0	40	10
P1004	P2-21 DO YOU USE OR REFER TO CUTOFF FREQUENCY OF WAVEGUIDES	7	9	0	5	8	9	25	25	0	40	10
P1005	P2-22 DO YOU USE OR REFER TO FREQUENCY-DETERMINING WALL OF WAVEGUIDES	6	7	0	1	6	9	25	25	0	40	8
P1006	P2-23 DO YOU USE OR REFER TO POWER-DETERMINING WALL OF WAVEGUIDES	6	7	0	1	6	9	25	25	0	40	8
P1007	P2-24 DO YOU USE OR REFER TO ELECTRIC FIELD BOUNDARY CONDITIONS	6	7	0	4	4	9	38	38	0	40	3
P1008	P2-25 DO YOU USE OR REFER TO MAGNETIC FIELD BOUNDARY CONDITIONS	6	7	0	4	4	9	38	38	0	40	3
P1009	P2-26 DO YOU USE OR REFER TO DUPLEXER FIELD BOUNDARY CONDITIONS	6	6	3	1	7	14	25	25	0	20	3
P1010	P2-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST WAVEGUIDES ARE MADE WITH A "B" WALL SIZE OF .7 WAVELENGTHS OF THE OPERATING FREQUENCY	5	5	3	0	4	14	13	13	0	20	5
P1011	P2-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST "A" WALLS RANGE FROM .2 TO .5 WAVELENGTHS IN SIZE, WITH .35 USED AS AN AVERAGE	4	4	3	1	3	14	13	13	0	20	2
P1012	P2-29 ARE YOU CONCERNED WITH THE MATERIAL (SUCH AS BRASS) WHICH WAVEGUIDES ARE MADE OF	3	3	3	4	0	5	13	13	0	20	0
P1013	P2-30 DO YOU COMPUTE THE LENGTH OF A WAVEGUIDE FOR SPECIFIC INSTALLATION	2	3	0	1	3	5	0	0	0	0	2
P1014	P2-31 DO YOU USE THE RIGHT HAND RULE TO DETERMINE THE DIRECTION OF PROPAGATION, DIRECTION OF "E" FIELD, OR DIRECTION OF "H" FIELD IN WAVEGUIDES	4	5	0	1	3	5	38	38	0	40	3
P1015	P2-32 DO YOU USE OR REFER TO THE TIME PHASE OF PEAK "E" OR "H" LINES IN WAVEGUIDES	4	4	0	2	1	5	13	13	0	20	3
P1016	P2-33 DO YOU MEASURE THE TIME PHASE OF "E" OR "H" LINES IN WAVEGUIDES	3	3	0	2	0	5	13	13	0	20	2
P1017	P2-34 DO YOU USE OR REFER TO THE SPACE QUADRATURE OF "E" OR "H" LINES IN WAVEGUIDES	2	3	0	0	1	5	25	25	0	40	0
P1018	P2-35 ARE HIGH POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	23	22	27	16	20	32	25	25	0	20	17
P1019	P2-36 ARE LOW POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	15	15	16	9	15	23	13	13	0	20	10
P1020	P2-37 ARE LOOPS USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	10	10	11	10	11	14	13	13	0	20	7
P1021	P2-38 ARE APERTURES (WINDOWS OR IRISES) USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	21	19	27	15	13	45	25	25	0	20	7
P1022	P2-39 ARE DON'T REMEMBER THE KIND OF ENERGY COUPLING USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	30	28	38	29	31	41	13	13	0	0	31
P1023	P2-40 DO YOU DETERMINE WHERE PROBES SHOULD BE MOUNTED IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	2	2	0	1	1	5	0	0	0	0	2
P1024	P2-41 DO YOU DETERMINE THE POSITIONING OF LOOPS IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	1	2	0	1	0	5	0	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DY-TSK		SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063
P1025	P2-42 DO YOU DETERMINE THE POSITIONING OR SIZE OF APERTURES IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	1	2	0	1	0	5	0	0	0	0	0
P1026	P2-43 ARE CHOKE JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	11	11	11	10	8	9	0	0	0	0	5
P1027	P2-44 ARE ROTATING JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	40	37	54	40	31	59	0	0	0	0	27
P1028	P2-45 ARE DON'T REMEMBER THE KIND OF JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	25	25	27	22	32	32	25	25	50	0	29
P1029	P2-46 DO YOU TUNE CAVITY RESONATORS USING CAPACITIVE TUNING	13	13	16	9	13	41	0	0	0	0	5
P1030	P2-47 DO YOU TUNE CAVITY RESONATORS USING INDUCTIVE TUNING	10	11	8	7	11	18	0	0	0	0	5
P1031	P2-48 DO YOU TUNE CAVITY RESONATORS USING VOLUME TUNING	16	14	22	13	14	23	0	0	0	0	10
P1032	P2-49 DO YOU TUNE CAVITY RESONATORS USING DON'T REMEMBER THE METHOD OF TUNING	24	25	32	25	23	27	13	13	0	0	20
P1033	P2-50 DO YOU MEASURE THE FREQUENCY OF SIGNALS IN CAVITY RESONATORS	31	30	35	24	38	36	13	13	0	0	31
P1034	P3-01 IN YOUR PRESENT JOB DO YOU WORK WITH KLYSTRONS, TRAVELING WAVE TUBES (TWT), PARAMETRIC AMPLIFIERS, OR MAGNETRONS	63	61	73	65	59	68	38	38	50	20	54
P1035	P3-02 DO YOU USE OR REFER TO INTERELECTRODE CAPACITANCE	8	9	3	7	7	5	25	25	0	20	5
P1036	P3-03 DO YOU USE OR REFER TO ELECTRON TRANSIT TIME	6	5	8	6	4	0	0	0	0	0	5
P1037	P3-04 DO YOU USE OR REFER TO LEAD INDUCTANCE	5	5	3	6	3	5	0	0	0	0	2
P1038	P3-05 DO YOU USE OR REFER TO RF LOSSES IN EXTERNAL CIRCUITRY	22	21	27	15	27	32	25	25	0	20	17
P1039	P3-06 DO YOU USE OR REFER TO PRINCIPLE OF ELECTRON VELOCITY MODULATION	6	6	5	2	7	5	13	13	0	0	5
P1040	P3-07 DO YOU USE OR REFER TO ELECTRON BUNCHING	4	4	5	1	4	5	13	13	0	20	3
P1041	P3-08 DO YOU WORK WITH TWO-CAVITY KLYSTRONS	11	10	19	10	8	18	25	25	50	0	7
P1042	P3-09 DO YOU WORK WITH THREE-CAVITY KLYSTRONS	5	4	11	7	0	9	25	25	50	20	0
P1043	P3-10 DO YOU WORK WITH REFLEX KLYSTRONS	33	31	43	32	21	55	25	25	0	20	10
P1044	P3-11 DO YOU WORK WITH TRAVELING-WAVE TUBES (TWT)	8	10	3	7	11	9	25	25	0	20	5
P1045	P3-12 DO YOU WORK WITH NONDEGENERATIVE PARAMETRIC AMPLIFIERS	10	11	8	9	18	14	0	0	0	0	8
P1046	P3-13 DO YOU WORK WITH UP-CONVERTER PARAMETRIC AMPLIFIERS	9	11	0	6	15	5	13	13	0	0	14
P1047	P3-14 DO YOU WORK WITH MAGNETRONS	62	59	73	63	58	68	38	38	50	20	49
P1048	P3-15 DO YOU INSPECT KLYSTRONS OR TWT	32	28	51	35	18	55	25	25	50	0	7
P1049	P3-16 DO YOU CLEAN KLYSTRONS OR TWT	11	10	16	11	9	9	13	13	50	0	2
P1050	P3-17 DO YOU TUNE KLYSTRONS OR TWT ELECTRICALLY	31	27	54	38	17	45	25	25	50	0	7
P1051	P3-18 DO YOU TUNE KLYSTRONS OR TWT MECHANICALLY	35	30	57	39	15	59	25	25	50	0	2
P1052	P3-19 DO YOU PERFORM OPERATIONAL CHECKS OF KLYSTRONS OR TWT	37	33	54	41	24	55	25	25	50	0	14
P1053	P3-20 DO YOU TROUBLESHOOT KLYSTRONS OR TWT	29	27	38	34	18	41	25	25	50	0	10
P1054	P3-21 DO YOU REMOVE OR REPLACE COMPLETE KLYSTRON OR TWT	36	32	57	37	21	55	25	25	50	0	10
P1055	P3-22 DO YOU REMOVE OR REPLACE KLYSTRON OR TWT COMPONENTS	9	10	8	11	8	18	13	13	50	0	8
P1056	P3-23 DO YOU INSPECT PARAMETRIC AMPLIFIERS	15	16	14	10	24	18	13	13	0	0	12
P1057	P3-24 DO YOU CLEAN PARAMETRIC AMPLIFIERS	7	7	3	4	8	5	0	0	0	0	3
P1058	P3-25 DO YOU ADJUST PARAMETRIC AMPLIFIERS	21	21	19	12	32	27	13	13	0	0	25

MICROWAVE AMPLIFIERS AND OSCILLATORS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063
P1059	P3-26 DO YOU TUNE PARAMETRIC AMPLIFIERS	17	18	16	9	30	27	13	13	0	0	20
P1060	P3-27 DO YOU PERFORM OPERATIONAL CHECKS OF PARAMETRIC AMPLIFIERS	22	23	19	13	37	23	13	13	0	0	29
P1061	P3-28 DO YOU TROUBLESHOOT PARAMETRIC AMPLIFIERS	19	19	19	10	32	23	13	13	0	0	22
P1062	P3-29 DO YOU REMOVE OR REPLACE COMPLETE PARAMETRIC AMPLIFIER	21	22	19	15	34	27	13	13	0	0	29
P1063	P3-30 DO YOU REMOVE OR REPLACE PARAMETRIC AMPLIFIER COMPONENTS	7	8	3	2	14	5	13	13	0	0	3
P1064	P3-31 DO YOU INSPECT MAGNETRONS	50	48	62	51	54	59	25	25	50	0	44
P1065	P3-32 DO YOU CLEAN MAGNETRONS	25	26	19	27	27	19	13	13	50	0	19
P1066	P3-33 DO YOU ADJUST MAGNETRONS	46	40	70	49	28	59	25	25	50	0	25
P1067	P3-34 DO YOU TUNE MAGNETRONS	44	40	65	49	32	55	25	25	50	0	27
P1068	P3-35 DO YOU PERFORM OPERATIONAL CHECKS OF MAGNETRONS	61	59	70	65	58	69	25	25	50	0	53
P1069	P3-36 DO YOU TROUBLESHOOT MAGNETRONS	46	45	51	48	51	50	25	25	50	0	47
P1070	P3-37 DO YOU REMOVE OR REPLACE COMPLETE MAGNETRON	51	49	62	49	58	59	25	25	50	0	49
P1071	P3-38 DO YOU REMOVE OR REPLACE MAGNETRON COMPONENTS	13	13	8	15	17	5	25	25	50	0	15
P1072	P3-39 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS COLLECTOR PLATES	6	6	3	6	4	5	25	25	0	20	3
P1073	P3-40 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER CAVITIES	4	4	3	2	1	5	13	13	0	20	2
P1074	P3-41 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER GRIDS	3	4	0	2	1	5	13	13	0	20	2
P1075	P3-42 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS FEEDBACK LOOPS	8	8	8	10	4	9	13	13	0	20	3
P1076	P3-43 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS DRIFT SPACES	3	3	3	1	1	5	0	0	0	0	2
P1077	P3-44 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER GRIDS	3	3	0	1	3	5	0	0	0	0	2
P1078	P3-45 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER CAVITIES	3	3	3	1	3	5	0	0	0	0	2
P1079	P3-46 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CONTROL GRIDS	8	8	5	11	3	9	13	13	0	20	2
P1080	P3-47 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATHODES	9	9	8	13	3	14	13	13	0	20	3
P1081	P3-48 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON REPELLER (REFLECTOR) PLATES	28	27	35	33	14	36	13	13	0	20	3
P1082	P3-49 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRIDS	14	15	11	15	7	18	13	13	0	20	3
P1083	P3-50 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRID CAVITY GAPS	10	11	3	12	4	9	13	13	0	20	2
P1084	P3-51 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON RESONANT CAVITIES	22	23	19	28	14	23	25	25	0	20	5
P1085	P3-52 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON MAGNETIC COUPLING LOOPS	13	13	8	13	7	18	25	25	0	20	2
P1086	P3-53 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON FILAMENTS	16	17	14	17	8	18	13	13	0	0	3
P1087	P3-54 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON CATHODES	19	19	16	21	8	32	25	25	0	20	3

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
P1088	P3-55 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON OUTPUT LEADS	16	16	16	15	10	27	13	13	0	20	3	
P1089	P3-56 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES FILAMENTS	8	9	0	9	8	5	0	0	0	0	5	
P1090	P3-57 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES CATHODES	8	9	0	9	7	5	13	13	0	20	5	
P1091	P3-58 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MODULATOR GRIDS	5	6	0	5	6	5	13	13	0	20	3	
P1092	P3-59 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ANODES	7	8	0	5	8	5	13	13	0	20	5	
P1093	P3-60 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES HELIXES	5	6	0	1	8	5	13	13	0	20	5	
P1094	P3-61 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES COLLECTORS	6	7	0	5	7	5	13	13	0	20	5	
P1095	P3-62 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MAGNETS	5	6	0	5	6	5	0	0	0	0	3	
P1096	P3-63 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ATTENUATORS	11	13	3	11	13	14	13	13	0	20	10	
P1097	P3-64 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE CIRCULATORS	7	7	5	2	11	5	13	13	0	0	7	
P1098	P3-65 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER SIGNAL CAVITIES	5	6	0	1	11	5	13	13	0	0	5	
P1099	P3-66 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER IDLER CAVITIES	2	2	0	0	3	5	0	0	0	0	2	
P1100	P3-67 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER VARACTOR DIODES	6	7	3	2	10	9	0	0	0	0	2	
P1101	P3-68 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE ISOLATORS	8	8	5	5	10	9	13	13	0	0	3	
P1102	P3-69 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER REVERSE-BIAS BATTERIES	2	2	0	0	4	5	0	0	0	0	2	
P1103	P3-70 DO YOU PERFORM TASKS ON ANODES	7	7	5	10	4	5	13	13	0	0	2	
P1104	P3-71 DO YOU PERFORM TASKS ON ANODE COOLING PINS	4	4	0	7	1	5	0	0	0	0	0	
P1105	P3-72 DO YOU PERFORM TASKS ON COUPLING LOOPS	6	7	0	10	4	5	0	0	0	0	2	
P1106	P3-73 DO YOU PERFORM TASKS ON HEATER LEADS	8	8	5	10	6	5	13	13	0	0	0	
P1107	P3-74 DO YOU PERFORM TASKS ON RESONANT CAVITIES	11	11	8	17	7	5	0	0	0	0	5	
P1108	P3-75 DO YOU PERFORM TASKS ON CATHODES	7	7	3	11	6	5	13	13	0	0	3	
P1109	P3-76 DO YOU PERFORM TASKS ON MAGNETS	8	9	5	12	7	5	0	0	0	0	3	
Q1110	Q1-01 DO YOU USE OR REFER TO STORAGE REGISTERS	16	18	3	12	20	5	63	63	50	80	12	
Q1111	Q1-02 DO YOU USE OR REFER TO SHIFT REGISTERS	14	17	3	10	18	5	63	63	50	80	10	REGISTERS
Q1112	Q1-03 DO YOU USE OR REFER TO LOGIC SYMBOLS OF SHIFT REGISTERS	13	16	3	9	17	5	50	50	0	80	8	
Q1113	Q1-04 DO YOU USE OR REFER TO LOGIC SYMBOLS OF STORAGE REGISTERS	13	16	3	9	17	5	50	50	0	80	8	
Q1114	Q1-05 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	13	15	3	9	14	5	50	50	0	80	8	
Q1115	Q1-06 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF REGISTERS	13	14	3	10	18	5	38	38	0	40	8	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
Q1116	Q1-07 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP OF A SHIFT REGISTER AFTER A SPECIFIED NUMBER OF SHIFT PULSES HAVE PASSED	13	19	3	7	17	5	38	38	0	60	12	
Q1117	Q2-01 DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR STORAGE DEVICES IN YOUR PRESENT JOB	29	33	5	16	49	18	50	50	0	60	44	STORAGE DEVICES
Q1118	Q2-02 DO YOU USE OR REFER TO DELAY LINES	21	29	5	9	32	23	50	50	0	60	22	
Q1119	Q2-03 DO YOU USE OR REFER TO MAGNETIC CORES	14	16	3	9	18	5	38	38	0	60	15	
Q1120	Q2-04 DO YOU USE OR REFER TO MAGNETIC DRUMS	22	26	3	5	48	5	50	50	0	60	44	
Q1121	Q2-05 DO YOU USE OR REFER TO MAGNETIC TAPES	16	18	5	6	27	9	50	50	0	60	24	
Q1122	Q2-06 DO YOU USE OR REFER TO ACCESS TIME OR SPEED OR MEMORY SYSTEMS	16	19	3	9	25	5	50	50	0	60	20	
Q1123	Q2-07 DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY SYSTEMS	18	22	0	7	37	5	50	50	0	60	36	
Q1124	Q2-08 DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS	7	9	0	5	9	5	38	38	0	60	8	
Q1125	Q2-09 DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES	12	13	3	5	18	5	50	50	0	60	19	
Q1126	Q3-01 IN YOUR PRESENT JOB, DO YOU WORK WITH DIGITAL-TO-ANALOG (D/A) CONVERTERS, ANALOG-TO-DIGITAL (A/D) CONVERTERS, OR BINARY-TO-DECIMAL READOUT CONVERTERS	17	20	3	13	28	5	38	38	0	40	24	DIGITAL TO ANALOG CONVERTERS
Q1127	Q3-02 DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT VOLTAGES	10	12	0	5	17	5	25	25	0	40	15	
Q1128	Q3-03 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE COUNT IN ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS IS DETERMINED BY ADDING THE DENOMINATORS OF THE RESISTORS	6	7	0	5	6	5	25	25	0	40	7	
Q1129	Q3-04 DO YOU COMPUTE ANALOG VOLTAGES FOR GIVEN BINARY COUNTS IN ELECTRONIC DIGITAL-TO-ANALOG (D/A) CONVERTERS	10	12	0	5	18	5	38	38	0	40	12	
Q1130	Q3-05 DO YOU PERFORM SAMPLE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	7	8	3	5	11	5	0	0	0	0	5	
Q1131	Q3-06 DO YOU PERFORM HOLD FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	7	7	3	5	11	5	0	0	0	0	5	
Q1132	Q3-07 DO YOU PERFORM COMPARE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	7	7	3	5	10	5	0	0	0	0	5	
Q1133	Q3-08 DO YOU PERFORM DIGITIZE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	8	9	3	5	14	5	13	13	0	0	7	
Q1134	Q3-09 DO YOU PERFORM DON'T REMEMBER WHICH FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	8	9	3	7	10	5	25	25	50	0	8	
Q1135	Q3-10 DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D CONVERTERS	9	10	3	6	14	5	13	13	0	20	7	
Q1136	Q3-11 DO YOU USE OR REFER TO HOLD FUNCTION OF A/D CONVERTERS	9	10	3	6	14	5	13	13	0	20	7	
Q1137	Q3-12 DO YOU USE OR REFER TO COMPARE FUNCTION OF A/D CONVERTERS	9	10	3	6	14	5	13	13	0	20	8	
Q1138	Q3-13 DO YOU USE OR REFER TO DIGITAL FUNCTION OF A/D CONVERTERS	10	11	3	5	17	5	38	38	0	40	8	
Q1139	Q3-14 DO YOU PERFORM ANY TASKS ON MECHANICAL ANALOG-TO-DIGITAL (A/D) CONVERTERS	6	6	3	4	7	5	13	13	0	20	7	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
R1140	R1-01 DO YOU WORK WITH PHANTASTRON CIRCUITRY IN YOUR PRESENT JOB	12	13	3	4	21	5	50	50	0	60	12	PHANTASTRONS
R1141	R2-01 IN YOUR PRESENT JOB DO YOU WORK WITH SCHMITT TRIGGER CIRCUITS	14	16	5	9	17	14	75	75	0	100	8	SCHMITT TRIGGERS
R1142	R2-02 DO YOU TRACE DATA FLOW THROUGH SCHMITT TRIGGER SCHEMATIC DIAGRAMS	13	15	3	7	15	9	75	75	0	100	7	
R1143	R2-03 DO YOU USE OR REFER TO SCHMITT TRIGGER LOGIC SYMBOLS	11	12	3	4	15	9	50	50	0	80	7	
R1144	R3-01 IN YOUR PRESENT JOB DO YOU FABRICATE MULTICONDUCTOR CABLES	25	26	22	23	31	23	13	13	0	20	24	CABLE FABRICATION
R1145	R3-02 DO YOU FABRICATE COAXIAL CABLES	44	43	46	35	56	50	50	50	50	40	49	
S1146	S1-01 IN YOUR PRESENT JOB DO YOU PERFORM ANY TASKS ON VISUAL READOUT SYSTEMS	33	34	24	27	54	23	25	25	50	0	49	INPUT/OUTPUT DEVICES
S1147	S1-02 DO YOU PERFORM ANY TASKS ON NIXIE LIGHTS OR NIXIE LIGHT DECODER SYSTEMS	8	9	0	2	18	0	0	0	0	0	14	
S1148	S1-03 DO YOU ANALYZE NIXIE LIGHT DECODER SYSTEMS USING BOOLEAN ALGEBRA	4	5	0	2	7	0	0	0	0	0	7	
S1149	S2-01 DO YOU WORK WITH PHOTO TUBES IN YOUR PRESENT JOB	4	5	0	2	4	0	50	50	0	60	3	PHOTO SENSITIVE DEVICES
S1150	S3-01 IN YOUR PRESENT JOB DO YOU WORK WITH CHOPPER CIRCUITS	28	27	32	11	37	36	63	63	0	80	24	SYNCHRONOUS VIBRATI (CHOPPER CIRCUITS)
S1151	S3-02 DO YOU MEASURE EXCITATION FREQUENCIES	15	14	16	6	21	14	50	50	0	60	12	
S1152	S3-03 DO YOU MEASURE VOLTAGE-CURRENT PHASE RELATIONSHIPS	13	12	16	6	18	14	25	25	0	40	12	
S1153	S3-04 DO YOU USE OR REFER TO EXCITATION FREQUENCIES	14	14	16	4	21	14	38	38	0	60	12	
S1154	S3-05 DO YOU USE OR REFER TO VOLTAGE-CURRENT PHASE RELATIONSHIPS	13	13	14	5	17	14	38	38	0	60	10	
S1155	S3-06 DO YOU USE SERVOS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	18	18	16	9	24	27	50	50	0	60	17	
S1156	S3-07 DO YOU USE DETECTORS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	23	22	24	7	31	27	36	36	0	40	22	
S1157	S3-08 DO YOU USE ERROR SIGNAL DEVICES IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	24	24	24	7	35	23	63	63	0	80	22	
S1158	S3-09 DO YOU USE COMPARISON CIRCUITS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	21	21	22	5	31	23	63	63	0	80	17	
T1159	T1-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH INFRARED SYSTEMS	27	32	3	0	73	0	38	38	0	40	76	INFRARED
T1160	T1-02 DO YOU INSPECT INFRARED SYSTEMS	24	28	3	0	72	0	13	13	0	0	69	
T1161	T1-03 DO YOU CLEAN INFRARED SYSTEMS	16	19	3	0	48	0	13	13	0	0	41	
T1162	T1-04 DO YOU ADJUST OR CALIBRATE INFRARED SYSTEMS	24	28	3	0	70	0	13	13	0	0	71	
T1163	T1-05 DO YOU OPERATE INFRARED SYSTEMS	26	30	3	0	76	0	13	13	0	0	78	
T1164	T1-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF INFRARED SYSTEMS	25	30	3	0	76	0	13	13	0	0	76	
T1165	T1-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF INFRARED SYSTEMS	25	29	3	0	75	0	13	13	0	0	75	
T1166	T1-08 DO YOU TROUBLESHOOT DOWN TO INFRARED SYSTEM COMPONENT PARTS	20	23	3	0	59	0	13	13	0	0	59	
T1167	T1-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF INFRARED SYSTEMS	26	30	3	0	77	0	13	13	0	0	78	
T1168	T1-10 DO YOU REMOVE OR REPLACE INFRARED SYSTEM COMPONENT PARTS	18	21	3	0	54	0	13	13	0	0	47	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
T1169	T1-11 DO YOU USE OR REFER TO FAR REGION	3	4	0	0	4	0	25	25	0	40	6	
T1170	T1-12 DO YOU USE OR REFER TO INTERMEDIATE REGION	4	5	0	0	8	0	38	38	0	40	7	
T1171	T1-13 DO YOU USE OR REFER TO NEAR REGION	4	4	0	0	6	0	25	25	0	40	7	
T1172	T1-14 DO YOU USE OR REFER TO MICRON	6	7	0	0	10	0	25	25	0	40	14	
T1173	T1-15 DO YOU USE OR REFER TO GRAY BODIES	4	5	0	0	6	0	38	38	0	40	7	
T1174	T1-16 DO YOU USE OR REFER TO BLACK BODIES	4	5	0	0	6	0	38	38	0	40	7	
T1175	T1-17 DO YOU USE OR REFER TO ABSORPTION	11	13	0	0	24	0	38	38	0	40	22	
T1176	T1-18 DO YOU USE OR REFER TO SCATTERING	5	6	0	0	8	0	25	25	0	40	10	
T1177	T1-19 DO YOU USE OR REFER TO ABSOLUTE ZERO	8	10	0	0	17	0	38	38	0	40	15	
T1178	T1-20 DO YOU PERFORM TASKS ON BLITZ	0	1	0	0	0	0	13	13	0	20	0	
T1179	T1-21 DO YOU PERFORM TASKS ON TARGET BUTTONS	0	1	0	0	0	0	13	13	0	20	0	
T1180	T1-22 DO YOU PERFORM TASKS ON ERECTOR LENSES	1	1	0	0	1	0	13	13	0	20	2	
T1181	T1-23 DO YOU PERFORM TASKS ON OCULAR LENSES	4	5	0	0	10	0	25	25	0	20	5	
T1182	T1-24 DO YOU PERFORM TASKS ON CORRECTION LENSES	2	3	0	0	6	0	25	25	0	20	2	
T1183	T1-25 DO YOU PERFORM TASKS ON FILTERS	6	7	0	0	17	0	13	13	0	20	10	
T1184	T1-26 DO YOU PERFORM TASKS ON SPHERICAL MIRRORS	2	3	0	0	6	0	25	25	0	20	3	
T1185	T1-27 DO YOU PERFORM TASKS ON PLANE MIRRORS	1	1	0	0	1	0	13	13	0	20	2	
T1186	T2-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH LASERS	2	3	0	0	0	0	25	25	0	40	2	LASERS
T1187	T2-02 DO YOU INSPECT LASER SYSTEMS	0	1	0	0	0	0	0	0	0	0	0	
T1188	T2-03 DO YOU CLEAN LASER SYSTEMS	0	1	0	0	0	0	0	0	0	0	0	
T1189	T2-04 DO YOU OPERATE LASER SYSTEMS	0	1	0	0	0	0	0	0	0	0	0	
T1190	T2-05 DO YOU OPERATE LASER SYSTEMS	0	1	0	0	0	0	0	0	0	0	0	
T1191	T2-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF LASER SYSTEMS	0	1	0	0	0	0	0	0	0	0	0	
T1192	T2-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF LASER SYSTEMS	0	1	0	0	0	0	0	0	0	0	0	
T1193	T2-08 DO YOU TROUBLESHOOT TO COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	
T1194	T2-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF LASER SYSTEMS	0	1	0	0	0	0	0	0	0	0	0	
T1195	T2-10 DO YOU REMOVE OR REPLACE COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	
T1196	T2-11 DO YOU USE OR REFER TO ANGSTROMS (A)	2	2	0	0	0	0	25	25	0	40	2	
T1197	T2-12 DO YOU USE OR REFER TO ELECTRON ENERGY LEVELS	2	3	0	0	0	0	25	25	0	40	2	
T1198	T2-13 DO YOU USE OR REFER TO GROUND STATE	2	3	0	0	0	0	25	25	0	40	2	
T1199	T2-14 DO YOU USE OR REFER TO EXCITED STATE	2	3	0	0	0	0	25	25	0	40	2	
T1200	T2-15 DO YOU USE OR REFER TO PACKET OF RADIATION	2	2	0	0	0	0	25	25	0	40	2	
T1201	T2-16 DO YOU USE OR REFER TO PHOTONS	2	3	0	0	0	0	25	25	0	40	2	
T1202	T2-17 DO YOU USE OR REFER TO SPONTANEOUS EMISSION	3	3	0	1	0	0	25	25	0	40	2	
T1203	T2-18 DO YOU USE OR REFER TO STIMULATED EMISSION	2	3	0	0	0	0	25	25	0	40	2	
T1204	T2-19 DO YOU USE OR REFER TO COHERENCE OR INCOHERENCE	2	3	0	0	0	0	25	25	0	40	2	
T1205	T2-20 DO YOU USE OR REFER TO INVERSION LEVEL	0	1	0	0	0	0	13	13	0	20	0	
T1206	T2-21 DO YOU USE OR REFER TO MONOCHROMATIC	1	2	0	0	0	0	13	13	0	20	0	
T1207	T2-22 DO YOU WORK WITH ACTIVE MATERIALS	0	1	0	0	0	0	13	13	0	20	0	
T1208	T2-23 DO YOU WORK WITH PUMPING SOURCES	0	1	0	0	0	0	13	13	0	20	0	
T1209	T2-24 DO YOU WORK WITH FULL SILVERED (100% REFLECTIVE) MIRRORS	0	1	0	0	0	0	13	13	0	20	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
T1210	T2-25 DO YOU WORK WITH HALF SILVERED (92% REFLECTIVE) MIRRORS	0	1	0	0	0	0	13	13	0	20	0	
T1211	T2-26 DO YOU WORK WITH HELICAL FLASHTUBES	0	1	0	0	0	0	13	13	0	20	0	
T1212	T2-27 DO YOU WORK WITH RUBY	0	1	0	0	0	0	13	13	0	20	0	
T1213	T2-28 DO YOU WORK WITH HELIUM-NEON	0	0	0	0	0	0	0	0	0	0	0	
T1214	T2-29 DO YOU WORK WITH HELIUM-XENON	0	0	0	0	0	0	0	0	0	0	0	
T1215	T2-30 DO YOU WORK WITH XENON	0	0	0	0	0	0	0	0	0	0	0	
T1216	T2-31 DO YOU WORK WITH CESIUM-HELIUM	0	0	0	0	0	0	0	0	0	0	0	
T1217	T2-32 DO YOU WORK WITH ARGON	0	0	0	0	0	0	0	0	0	0	0	
T1218	T2-33 DO YOU WORK WITH NEODYMIUM IN GLASS	0	0	0	0	0	0	0	0	0	0	0	
T1219	T2-34 DO YOU WORK WITH GALLIUM ARSENIDE	0	0	0	0	0	0	0	0	0	0	0	
T1220	T3-01 IN YOUR PRESENT JOB DO YOU WORK WITH DISPLAY TUBES, SUCH AS DIRECT VIEW STORAGE (DVST) OR MULTIPLE MODE STORAGE TUBES (MMST)	77	75	89	78	73	86	63	63	50	60	69	DISPLAY TUBES
T1221	T3-02 DO YOU INSPECT DVST OR MMST	60	56	84	60	62	73	25	25	50	0	51	
T1222	T3-03 DO YOU CLEAN DVST OR MMST	38	37	41	40	38	41	13	13	50	0	31	
T1223	T3-04 DO YOU ADJUST OR CALIBRATE DVST OR MMST	53	54	49	51	62	59	13	13	0	0	61	
T1224	T3-05 DO YOU OPERATE SYSTEMS THAT CONTAIN DVST OR MMST	75	73	86	78	72	82	38	38	50	20	66	
T1225	T3-06 DO YOU TROUBLESHOOT DVST OR MMST CIRCUITS	60	58	70	60	63	86	25	25	50	0	56	
T1226	T3-07 DO YOU REMOVE OR REPLACE DVST OR MMST TUBES FROM MAJOR ASSEMBLIES OR UNITS	44	42	57	49	38	68	25	25	50	0	20	
T1227	T3-08 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF DVST	31	28	43	41	4	45	50	50	50	60	3	
T1228	T3-09 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF MMST	21	24	5	9	42	5	50	50	0	60	42	
T1229	T3-10 DO YOU PERFORM TASKS ON FLOOD GUNS	36	36	32	30	41	41	25	25	0	20	37	
T1230	T3-11 DO YOU PERFORM TASKS ON WRITE GUNS	36	35	38	34	35	41	25	25	0	20	29	
T1231	T3-12 DO YOU PERFORM TASKS ON ATTACK GUNS	28	30	19	18	45	23	25	25	0	20	42	
T1232	T3-13 DO YOU PERFORM TASKS ON ERASE GUNS	37	38	32	29	46	41	25	25	0	20	42	
T1233	T3-14 DO YOU PERFORM TASKS ON STORAGE GRIDS	33	34	27	28	39	36	25	25	0	20	37	
U1234	U1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY PROGRAMMING TASKS	14	16	3	9	27	9	25	25	0	20	17	PROGRAMMING
U1235	U1-02 DO YOU USE OR REFER TO DECIMAL SYSTEMS	9	11	0	4	20	5	25	25	0	20	14	
U1236	U1-03 DO YOU USE OR REFER TO PROGRAMS	12	14	3	7	24	9	25	25	0	20	14	
U1237	U1-04 DO YOU USE OR REFER TO HEXIDECIMAL SYSTEMS	6	7	0	4	11	5	13	13	0	20	3	
U1238	U1-05 DO YOU USE OR REFER TO 8-4-2-1 SYSTEMS	9	11	0	6	15	5	25	25	0	20	10	
U1239	U1-06 DO YOU USE OR REFER TO FOUR SYSTEMS	2	2	0	1	1	5	0	0	0	0	0	
U1240	U1-07 DO YOU USE OR REFER TO BINARY SYSTEMS	13	16	0	6	27	5	25	25	0	20	19	
U1241	U1-08 DO YOU USE OR REFER TO TIME-SHARING	11	13	3	6	23	9	25	25	0	20	14	
U1242	U1-09 DO YOU USE OR REFER TO DATA WORDS	12	14	0	6	24	5	25	25	0	20	14	
U1243	U1-10 DO YOU USE OR REFER TO ADDRESS WORDS	13	14	3	6	25	9	25	25	0	20	14	
U1244	U1-11 DO YOU USE OR REFER TO ADDRESS/SUBADDRESS	10	12	0	5	20	5	25	25	0	20	8	
U1245	U1-12 DO YOU USE OR REFER TO STEERING/INFORMATION	11	13	0	4	25	5	25	25	0	20	15	
U1246	U1-13 DO YOU USE OR REFER TO INFORMATION WORDS	11	13	0	5	23	5	25	25	0	20	12	
U1247	U1-14 DO YOU PERFORM TASKS ON SINGLE LEVEL PROGRAMMING	5	6	0	4	11	5	0	0	0	0	2	
U1248	U1-15 DO YOU PERFORM TASKS ON MULTI-LEVEL PROGRAMMING	4	4	0	4	6	5	0	0	0	0	2	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 060	SPC 061	SPC 063	
U1249 U1-16 DO YOU PERFORM TASKS ON INPUT DEVICES	12	19	0	6	26	5	25	25	0	20	19	
U1250 U1-17 DO YOU PERFORM TASKS ON STORAGE DEVICES	11	13	0	7	24	5	25	25	0	20	12	
U1251 U1-18 DO YOU PERFORM TASKS ON ARITHMETIC SECTIONS	12	19	0	6	25	5	25	25	0	20	12	
U1252 U1-19 DO YOU PERFORM TASKS ON CONTROL SECTIONS	11	13	0	6	24	5	13	13	0	0	19	
U1253 U1-20 DO YOU PERFORM TASKS ON OUTPUT DEVICES	11	13	0	5	25	5	13	13	0	0	16	
U1254 U1-21 DO YOU PERFORM TASKS ON POWER SUPPLIES	13	16	0	7	28	5	13	13	0	0	17	
U1255 U2-01 DO YOU USE DECIBELS TO EXPRESS AMPLIFICATION AND ATTENUATION	42	45	22	22	61	27	63	63	0	80	56	DB AND POWER RATIOS
U1256 U2-02 DO YOU USE LOGARITHMS TO COMPUTE OUTPUT POWER IN DECIBELS	8	9	0	2	8	0	50	50	0	80	5	
U1257 U2-03 DO YOU USE LOGARITHMS TO COMPUTE ATTENUATION IN DECIBELS	8	10	0	2	10	0	50	50	0	80	5	
U1258 U2-04 DUMMY TASK TO IDENTIFY INCUMBENTS WHO PERFORMED NO TASKS	1	1	3	1	0	0	0	0	0	0	0	

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PCT MBRS RESPONDING 'YES' BY SELECTED GRPS GPSM4B PAGE 1

TABULATION OF ELECTRONIC PRINCIPLES UTILIZATION DATA FOR SELECTED GROUPS
IN THE 321X2 CAREER FIELD.

REPORTS ON THE FOLLOWING GROUPS WERE REQUESTED

GROUP IDENTITY =	SPC064	ALL AMN DAFSC 32152A ASSIGNED TO ADC	CONTAINING	53 MEMBERS.
GROUP IDENTITY =	SPC065	ALL AMN DAFSC 32152A ASSIGNED TO ATC	CONTAINING	5 MEMBERS.
GROUP IDENTITY =	SPC066	ALL AIRMEN DAFSC 32152C	CONTAINING	12 MEMBERS.
GROUP IDENTITY =	SPC067	ALL AMN DAFSC 32152C ASSIGNED TO ADC	CONTAINING	12 MEMBERS.
GROUP IDENTITY =	SPC069	ALL AIRMEN DAFSC 32152N	CONTAINING	9 MEMBERS.
GROUP IDENTITY =	SPC070	ALL AMN DAFSC 32152N ASSIGNED TO TAC	CONTAINING	3 MEMBERS.
GROUP IDENTITY =	SPC071	ALL AMN DAFSC 32152N ASSIGNED TO ATC	CONTAINING	1 MEMBERS.
GROUP IDENTITY =	SPC072	ALL AIRMEN DAFSC 32152P	CONTAINING	62 MEMBERS.
GROUP IDENTITY =	SPC073	ALL AMN DAFSC 32152P STATIONED IN CONUS	CONTAINING	42 MEMBERS.
GROUP IDENTITY =	SPC074	ALL AMN DAFSC 32152P STATIONED OVERSEAS	CONTAINING	20 MEMBERS.
GROUP IDENTITY =	SPC075	ALL AMN DAFSC 32152P ASSIGNED TO TAC	CONTAINING	23 MEMBERS.

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
A	1	A1-01 IN YOUR PRESENT JOB, DO YOU USE INSTRUMENTS, SUCH AS METERS OR OSCILLOSCOPES, IN WHICH IT IS NECESSARY TO AMPLIFY OR ATTENUATE VOLTAGE, RESISTANCE, ETC., BY POWERS OF 10.	79	100	83	83	100	100	100	79	76	85	74	
A	2	A1-02 DO YOU USE PUBLICATIONS, SUCH AS A TECHNICAL ORDERS OR MAINTENANCE MANUALS, IN WHICH IT IS NECESSARY FOR YOU TO MULTIPLY OR DIVIDE BY A POWER OF 10 BEFORE YOU CAN APPLY THE INFORMATION FROM THE PUBLICATION IN A USEFUL WAY ON THE JOB.	92	100	67	67	75	100	0	34	36	30	30	
A	3	A1-03 DO YOU REARRANGE AND SOLVE FORMULAS OR EQUATIONS.	23	60	67	67	25	33	0	24	21	30	26	
A	4	A1-04 DO YOU CALCULATE THE SQUARE ROOT OF A QUANTITY.	8	40	17	17	0	0	0	5	7	0	13	
A	5	A1-05 DO YOU SOLVE FOR UNKNOWN QUANTITIES.	15	80	50	50	0	0	0	18	17	20	22	
A	6	A1-06 DO YOU CONVERT NUMBERS TO LOGARITHMS.	4	20	8	8	0	0	0	5	5	5	9	
A	7	A1-07 DO YOU USE LOGARITHM TABLES IN ANY TYPE OF CALCULATIONS.	6	20	17	17	0	0	0	5	5	5	9	MATHEMATICS
A	8	A1-08 DO YOU SOLVE QUADRATIC EQUATIONS.	9	60	25	25	0	0	0	5	7	0	13	
A	9	A1-09 DO YOU USE THE NATURAL SYSTEM OF LOGARITHMS.	6	20	8	8	0	0	0	3	5	0	9	
A	10	A1-10 DO YOU PERFORM CALCULATIONS ON VECTOR QUANTITIES.	8	40	25	25	0	0	0	6	5	10	9	
A	11	A1-11 DO YOU WORK WITH TRIGONOMETRIC FUNCTIONS SUCH AS SINE, COSINE, OR TANGENT.	32	60	58	58	25	33	0	26	24	30	22	
A	12	A1-12 DO YOU DETERMINE AREAS OF PLANE FIGURES.	8	20	0	0	0	0	0	8	10	5	13	
A	13	A1-13 DO YOU SOLVE OR USE SIMULTANEOUS EQUATIONS.	8	40	17	17	0	0	0	5	5	5	9	
A	14	A1-14 DO YOU SOLVE OR USE PROPORTIONS.	17	40	50	50	0	0	0	13	12	15	17	
A	15	A2-01 DO YOU USE THE TERM VOLTAGE OR VOLT (V).	92	100	100	100	100	100	100	92	93	90	91	
A	16	A2-02 DO YOU USE THE TERM ELECTROMOTIVE FORCE (EMF).	19	60	33	33	25	33	0	32	38	20	43	
A	17	A2-03 DO YOU USE THE TERM OHM.	87	80	100	100	100	100	100	92	93	90	91	
A	18	A2-04 DO YOU USE THE TERM ION.	9	60	8	8	0	0	0	24	29	15	30	DIRECT CURRENT AND VOLTAGE
A	19	A2-05 DO YOU USE THE TERM DYNE.	8	40	0	0	0	0	0	16	21	5	17	
A	20	A2-06 DO YOU USE THE TERM AMPERE.	68	100	100	100	100	100	100	84	81	90	87	
A	21	A2-07 DO YOU USE THE TERM NEUTRON.	11	60	25	25	0	0	0	26	29	20	39	
A	22	A2-08 DO YOU USE THE TERM COULOMB.	8	40	25	25	0	0	0	13	19	10	22	
A	23	A2-09 DO YOU USE THE TERM PROTON.	11	60	17	17	0	0	0	26	29	20	39	
A	24	A3-01 DO YOU WORK WITH RESISTORS IN YOUR PRESENT JOB.	58	60	92	92	100	100	100	77	76	80	74	
A	25	A3-02 DO YOU INSPECT RESISTORS.	93	60	100	100	100	100	100	66	67	65	65	
A	26	A3-03 DO YOU CLEAN RESISTORS.	21	40	92	92	75	67	100	32	29	40	17	
A	27	A3-04 DO YOU ADJUST RESISTORS.	97	60	100	100	100	100	100	74	69	85	70	
A	28	A3-05 DO YOU CHECK OHMIC VALUE OF RESISTORS.	55	60	100	100	100	100	100	68	69	75	57	RESISTANCE
A	29	A3-06 DO YOU REMOVE OR REPLACE RESISTORS.	30	20	100	100	100	100	100	60	55	70	48	
A	30	A3-07 DO YOU USE OR REFER TO TEMPERATURE COEFFICIENTS FOR RESISTORS ON ANY TASKS YOU PERFORM.	11	60	50	50	50	33	100	29	26	20	26	
A	31	A3-08 DO YOU USE OR REFER TO RESISTOR SYMBOLS SUCH AS FIXED RESISTOR SYMBOLS OR TAPPED RESISTOR SYMBOLS.	51	80	100	100	100	100	100	79	79	65	78	
A	32	A3-09 DO YOU IDENTIFY OR CLASSIFY THE RESISTORS YOU WORK WITH AS CARBON, FIXED WIRE, SLIDE TAP, RHEOSTAT, OR POTENTIOMETER.	99	60	92	92	75	67	100	63	67	55	61	
A	33	A3-10 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE OHMIC VALUE OF RESISTANCE.	90	60	100	100	100	100	100	66	67	65	65	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
A	34	A3-11 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE TOLERANCE.	26	60	92	92	100	100	100	53	50	60	48	
A	35	A3-12 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE FAILURE RATE.	6	20	25	25	0	0	0	16	19	10	22	
A	36	A3-13 DO YOU MAKE DECISIONS IN WHICH YOU MUST DETERMINE HOW TWO OR MORE BATTERIES MUST BE CONNECTED TOGETHER TO ACHIEVE A SPECIFIC VOLTAGE.	9	60	92	92	25	33	0	19	19	20	26	
A	37	A3-14 DO YOU USE OR REFER TO THE SCHEMATIC SYMBOLS WHICH REPRESENT BATTERIES, FUSES, CONDUCTORS, LAMPS, OR SWITCHES	62	80	100	100	100	100	100	79	76	85	78	
A	38	A3-15 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES RESISTIVE CIRCUITS.	38	60	83	83	75	67	100	42	40	45	43	
A	39	A3-16 DO YOU CALCULATE TOTAL CURRENT FOR SERIES RESISTIVE CIRCUITS.	23	60	75	75	50	67	0	35	38	30	39	
A	40	A3-17 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES RESISTIVE CIRCUITS.	30	60	83	83	50	67	0	42	43	40	39	
A	41	A3-18 DO YOU CALCULATE POWER DISSIPATION FOR SERIES RESISTIVE CIRCUITS.	23	40	67	67	25	33	0	27	26	30	35	
A	42	A3-19 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES PARALLEL RESISTIVE CIRCUITS.	34	60	83	83	75	67	100	37	36	40	35	
A	43	A3-20 DO YOU CALCULATE TOTAL CURRENT FOR SERIES PARALLEL RESISTIVE CIRCUITS.	21	60	75	75	50	67	0	32	36	25	35	
A	44	A3-21 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	32	60	83	83	50	67	0	39	40	35	35	
A	45	A3-22 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	17	60	75	75	50	67	0	24	26	20	22	
A	46	A3-23 DO YOU CALCULATE POWER DISSIPATION FOR SERIES PARALLEL RESISTIVE CIRCUITS.	21	40	75	75	25	33	0	21	21	20	22	
A	47	A3-24 DO YOU CALCULATE TOTAL RESISTANCE FOR PARALLEL RESISTIVE CIRCUITS.	34	60	83	83	50	67	0	39	36	45	35	
A	48	A3-25 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RESISTIVE CIRCUITS.	23	60	75	75	50	67	0	32	33	30	30	
A	49	A3-26 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR PARALLEL RESISTIVE CIRCUITS.	32	60	83	83	50	67	0	37	36	40	30	
A	50	A3-27 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR PARALLEL RESISTIVE CIRCUITS.	23	60	75	75	50	67	0	24	24	25	17	
A	51	A3-28 DO YOU CALCULATE POWER DISSIPATION FOR PARALLEL RESISTIVE CIRCUITS.	21	40	75	75	25	33	0	19	19	20	17	
B	52	B1-01 DO YOU MEASURE RESISTANCE.	89	80	100	100	100	100	100	89	86	95	91	
B	53	B1-02 DO YOU REPAIR OHMMETERS.	6	0	8	8	0	0	0	3	2	5	4	
B	54	B1-03 DO YOU MEASURE VOLTAGE.	89	100	100	100	100	100	100	92	90	95	87	
B	55	B1-04 DO YOU REPAIR VOLTMETERS.	6	0	25	25	0	0	0	3	2	5	4	
B	56	B1-05 DO YOU REPAIR AMMETERS.	6	0	33	33	0	0	0	2	2	0	4	MULTIMETER USES
B	57	B1-06 DO YOU MEASURE CURRENT.	74	100	75	75	100	100	100	63	62	65	57	
B	58	B1-07 DO YOU USE MULTIMETERS.	91	100	100	100	100	100	100	89	88	90	87	
B	59	B1-08 DO YOU DIRECTLY USE A QUANTITY OF CHARGE CALLED A COULOMB.	4	20	8	8	0	0	0	5	2	10	4	
B	60	B1-09 DO YOU READ SCHEMATICS.	85	100	100	100	100	100	100	94	93	95	91	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
B	61	B2-01 DO YOU USE OR REFER TO THE TERM EFFECTIVE VOLTAGE (RMS).	57	80	92	92	75	100	0	60	62	55	52	
B	62	B2-02 DO YOU USE OR REFER TO THE TERM PEAK TO PEAK VOLTAGE.	75	100	92	92	100	100	100	74	74	75	70	ALTERNATING
B	63	B2-03 DO YOU USE OR REFER TO THE TERM AVERAGE VOLTAGE (DC).	68	100	92	92	100	100	100	69	74	60	65	CURRENT
B	64	B2-04 DO YOU USE OR REFER TO THE TERM WAVE LENGTH.	66	100	83	83	75	100	0	56	60	50	52	
B	65	B2-05 DO YOU USE OR REFER TO THE TERM FREQUENCY.	79	100	100	100	100	100	100	82	83	80	83	
B	66	B2-06 DO YOU USE OR REFER TO THE TERM INSTANTANEOUS VALUE.	23	90	58	58	75	67	100	19	21	15	17	
B	67	B3-01 DO YOU WORK WITH INDUCTORS OR CIRCUITS CONTAINING INDUCTORS, CHOKES, OR CHOKE COILS IN YOUR PRESENT JOB.	26	60	83	83	75	67	100	60	62	55	61	
B	68	B3-02 DO YOU INSPECT INDUCTORS.	19	90	75	75	75	67	100	45	40	55	35	
B	69	B3-03 DO YOU CLEAN INDUCTORS.	11	20	58	58	50	33	100	19	21	15	9	
B	70	B3-04 DO YOU ADJUST INDUCTORS.	17	90	50	50	75	67	100	37	38	35	30	
B	71	B3-05 DO YOU REMOVE OR REPLACE INDUCTORS.	11	20	83	83	75	67	100	90	36	50	26	
B	72	B3-06 DO YOU USE OR REFER TO INDUCTANCE.	15	60	67	67	75	67	100	39	38	40	30	
B	73	B3-07 DO YOU USE OR REFER TO HENRIES.	6	60	67	67	75	67	100	31	29	35	26	INDUCTORS AND
B	74	B3-08 DO YOU USE OR REFER TO INDUCTIVE REACTANCE.	8	60	50	50	50	67	0	32	33	30	30	INDUCTIVE
B	75	B3-09 DO YOU USE OR REFER TO COPPER LOSS IN INDUCTORS.	9	90	17	17	0	0	0	5	2	10	0	REACTANCE
B	76	B3-10 DO YOU USE OR REFER TO HYSTERESIS LOSS IN INDUCTORS.	6	60	33	33	0	0	0	5	2	10	0	
B	77	B3-11 DO YOU USE OR REFER TO EDDY CURRENT LOSS IN INDUCTORS	4	60	33	33	50	67	0	8	7	10	4	
B	78	B3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTANCE IS PROPORTIONAL TO THE SQUARE OF THE NUMBER OF TURNS OF THE COIL.	8	60	17	17	0	0	0	8	7	10	4	
B	79	B2-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE CROSS SECTIONAL AREA OF THE CORE.	8	60	25	25	0	0	0	6	7	5	4	
B	80	B2-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS INVERSELY PROPORTIONAL TO ITS LENGTH.	8	60	8	8	0	0	0	8	10	5	4	
B	81	B2-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE PERMEABILITY OF THE CORE MATERIAL.	8	90	17	17	0	0	0	8	7	10	4	
B	82	B2-16 DO YOU CALCULATE INDUCTANCE FOR PARTICULAR INDUCTORS USING FORMULAS.	4	60	17	17	0	0	0	3	2	5	4	
B	83	B3-17 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTANCE IN SERIES.	4	60	42	42	0	0	0	10	10	10	9	
B	84	B3-18 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN PARALLEL.	4	60	33	33	0	0	0	10	10	10	9	
B	85	B3-19 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES-PARALLEL CIRCUITS.	4	60	42	42	0	0	0	10	10	10	9	
B	86	B3-20 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LAGS VOLTAGE IN AC INDUCTOR CIRCUITS.	9	80	42	42	0	0	0	11	12	10	9	
B	87	B3-21 DO YOU CALCULATE INDUCTIVE REACTANCE.	4	60	42	42	0	0	0	10	12	5	9	
B	88	B3-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTIVE REACTANCE IS DIRECTLY PROPORTIONAL TO FREQUENCY.	6	90	42	42	0	0	0	13	17	5	9	
B	89	B3-23 DO YOU WORK WITH POWER INDUCTORS.	19	60	50	50	75	67	100	32	31	35	30	
B	90	B3-24 DO YOU WORK WITH AUDIO FREQUENCY INDUCTORS.	13	90	50	50	0	0	0	8	10	5	9	
B	91	B3-25 DO YOU WORK WITH RADIO FREQUENCY INDUCTORS.	19	90	50	50	50	33	100	34	36	30	30	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 069	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
C	92	C1-01 DO YOU WORK WITH CAPACITORS OR CIRCUITS CONTAINING CAPACITORS IN YOUR PRESENT JOB.	57	80	92	92	100	100	100	68	71	60	74	
C	93	C1-02 DO YOU INSPECT CAPACITORS.	42	60	92	92	100	100	100	58	55	65	61	
C	94	C1-03 DO YOU CLEAN CAPACITORS.	15	20	100	100	100	100	100	34	26	50	13	
C	95	C1-04 DO YOU ADJUST CAPACITORS.	40	60	92	92	50	67	0	56	60	50	61	
C	96	C1-05 DO YOU TEST CAPACITORS.	21	40	92	92	100	100	100	47	43	55	35	
C	97	C1-06 DO YOU DISCHARGE CAPACITORS.	43	60	92	92	100	100	100	68	67	70	70	
C	98	C1-07 DO YOU REMOVE OR REPLACE CAPACITORS.	26	20	100	100	100	100	100	47	43	55	35	
C	99	C1-08 DO YOU USE OR REFER TO DISTRIBUTED CAPACITANCE.	11	40	25	25	0	0	0	15	17	10	17	CAPACITORS AND CAPACITIVE REACTANCE
C	100	C1-09 DO YOU USE OR REFER TO ORBITAL STRESS OF ELECTRONS IN A DIELECTRIC.	4	40	8	8	0	0	0	10	7	15	4	
C	101	C1-10 DO YOU USE OR REFER TO FARADS, MICROFARADS, OR PICOFARADS.	25	80	92	92	100	100	100	50	48	55	35	
C	102	C1-11 DO YOU USE OR REFER TO CAPACITANCE.	34	80	100	100	100	100	100	45	43	50	30	
C	103	C1-12 DO YOU USE OR REFER TO DIELECTRIC CONSTANT	6	40	42	42	25	33	0	13	12	15	9	
C	104	C1-13 DO YOU USE OR REFER TO WORKING VOLTAGE RATING OF CAPACITORS	9	60	100	100	100	100	100	42	40	45	30	
C	105	C1-14 DO YOU USE OR REFER TO CAPACITIVE REACTANCE	11	60	67	67	50	67	0	23	19	30	17	
C	106	C1-15 DO YOU USE OR REFER TO CAPACITOR COLOR CODES	8	40	92	42	75	67	100	16	17	15	9	
C	107	C1-16 DO YOU WORK WITH CAPACITORS IN DC CIRCUITS	60	80	100	100	100	100	100	71	71	70	74	
C	108	C1-17 DO YOU WORK WITH CAPACITORS IN AC CIRCUITS	55	80	92	92	100	100	100	73	74	70	74	
C	109	C1-18 DO YOU WORK WITH CAPACITORS IN CIRCUITS WITH BOTH DC AND AC	57	80	100	100	100	100	100	61	60	65	61	
C	110	C1-19 DO YOU WORK WITH CAPACITORS IN DON'T REMEMBER WHICH CIRCUITS	11	0	8	8	0	0	0	19	19	20	26	
C	111	C1-20 DO YOU CALCULATE CAPACITANCE FOR PARTICULAR CAPACITORS USING FORMULAS	4	40	17	17	0	0	0	5	5	5	4	
C	112	C1-21 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS DIRECTLY PROPORTIONAL TO THE DIELECTRIC CONSTANT	6	40	17	17	0	0	0	3	5	0	4	
C	113	C1-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS INVERSELY PROPORTIONAL TO THE DIELECTRIC THICKNESS	4	40	25	25	0	0	0	5	5	5	0	
C	114	C1-23 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES	4	60	58	58	25	33	0	11	10	15	9	
C	115	C1-24 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN PARALLEL	2	60	67	67	25	33	0	11	10	15	9	
C	116	C1-25 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES-PARALLEL CIRCUITS	2	60	50	50	25	33	0	11	10	15	9	
C	117	C1-26 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT DOES NOT FLOW THROUGH CAPACITORS, IT ONLY APPEARS TO DO SO	9	60	75	75	75	67	100	18	19	15	9	
C	118	C1-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LEADS VOLTAGE IN AC CAPACITOR CIRCUITS	11	40	50	50	50	33	100	15	19	15	13	
C	119	C1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITIVE REACTANCE IS INVERSELY PROPORTIONAL TO FREQUENCY	4	40	50	50	50	67	0	8	10	5	4	
C	120	C1-29 DO YOU CALCULATE CAPACITIVE REACTANCE	4	60	33	33	25	33	0	10	12	5	9	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
C 121	C1-30 DO YOU WORK WITH ROTOR-STATOR (VARIABLE) CAPACITORS	28	40	92	92	25	0	100	47	48	45	48	
C 122	C1-31 DO YOU WORK WITH COMPRESSION (TRIMMER) CAPACITORS	13	60	67	67	25	33	0	24	21	30	17	
C 123	C1-32 DO YOU WORK WITH ELECTROLYTIC (FIXED) CAPACITORS	30	80	100	100	75	67	100	53	55	50	52	
C 124	C1-33 DO YOU WORK WITH PAPER (FIXED) CAPACITORS	21	40	75	75	75	67	100	47	43	55	48	
C 125	C1-34 DO YOU WORK WITH MICA (FIXED) CAPACITORS	26	80	92	92	75	67	100	40	36	50	22	
C 126	C1-35 DO YOU WORK WITH CERAMIC (FIXED) CAPACITORS	34	80	92	92	75	67	100	48	45	55	39	
C 127	C1-36 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF CAPACITORS	21	0	33	33	25	33	0	29	29	30	39	
C 128	C2-01 DO YOU WORK WITH TRANSFORMERS IN YOUR PRESENT JOB	38	80	100	100	100	100	100	66	67	65	74	
C 129	C2-02 DO YOU INSPECT TRANSFORMERS	34	60	92	92	100	100	100	58	55	65	61	
C 130	C2-03 DO YOU CLEAN TRANSFORMERS	15	20	75	75	100	100	100	29	29	40	9	
C 131	C2-04 DO YOU ADJUST TRANSFORMERS	17	60	42	42	50	67	0	31	31	30	30	
C 132	C2-05 DO YOU TROUBLESHOOT TRANSFORMERS	36	80	100	100	100	100	100	42	40	45	35	
C 133	C2-06 DO YOU REMOVE OR REPLACE COMPLETE TRANSFORMERS	30	40	92	92	100	100	100	47	43	55	35	TRANSFORMERS
C 134	C2-07 DO YOU REMOVE OR REPLACE TRANSFORMER PARTS, SUCH AS THE PRIMARY WINDING	4	0	8	8	0	0	0	5	5	5	4	
C 135	C2-08 DO YOU MAKE A DISTINCTION BETWEEN MUTUAL INDUCTION AND MUTUAL INDUCTANCE (M)	4	20	0	0	0	0	0	6	5	10	4	
C 136	C2-09 DO YOU USE THE SYMBOL FOR MUTUAL INDUCTANCE, M	4	20	17	17	0	0	0	10	10	10	13	
C 137	C2-10 DO YOU REFER TO OR USE THE COEFFICIENT OF COUPLING WHEN WORKING WITH TRANSFORMERS	4	40	0	0	0	0	0	6	5	10	4	
C 138	C2-11 DO YOU CALCULATE TURNS RATIOS FOR TRANSFORMERS USING CURRENT OR VOLTAGE RATIOS	6	40	33	33	0	0	0	16	21	5	22	
C 139	C2-12 DO YOU REFER TO REFLECTED IMPEDANCE WHEN WORKING WITH TRANSFORMERS	4	20	25	25	0	0	0	8	12	0	9	
C 140	C2-13 DO YOU CALCULATE IMPEDANCE INTERACTIONS FOR TRANSFORMERS	4	20	25	25	0	0	0	10	12	5	4	
C 141	C2-14 DO YOU WORK WITH AUTOTRANSFORMERS	13	40	58	58	50	33	100	18	19	15	9	
C 142	C2-15 DO YOU WORK WITH POWER TRANSFORMERS	30	80	83	83	75	67	100	63	62	65	61	
C 143	C2-16 DO YOU WORK WITH AUDIO TRANSFORMERS	15	60	58	58	25	33	0	10	7	15	4	
C 144	C2-17 DO YOU WORK WITH RADIO FREQUENCY TRANSFORMERS	21	40	58	58	50	33	100	42	45	35	35	
C 145	C2-18 DO YOU WORK WITH DON'T REMEMBER WHAT TYPE OF TRANSFORMERS	13	0	25	25	25	33	0	21	24	15	35	
C 146	C2-19 DO YOU CHECK TRANSFORMERS FOR OPEN WINDINGS BY MEASURING RESISTANCE	28	80	92	92	100	100	100	48	45	55	43	
C 147	C2-20 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING RESISTANCE	25	80	100	100	100	100	100	47	43	55	39	
C 148	C2-21 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING OUTPUT VOLTAGES	21	80	92	92	25	33	0	37	31	50	26	
C 149	C2-22 DO YOU MEASURE RESISTANCE OF TRANSFORMER WINDINGS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO	11	40	50	50	25	33	0	23	26	15	26	
C 150	C2-23 DO YOU MEASURE OUTPUT VOLTAGE OF TRANSFORMERS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO	15	40	58	58	25	33	0	31	33	25	22	
C 151	C2-24 DO YOU REFER TO BASIC TRANSFORMER SCHEMATIC SYMBOLS FOR TRANSFORMERS	36	80	100	100	75	67	100	66	69	60	70	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
C 152	C2-25 DO YOU REFER TO MULTIPLE SECONDARY-WINDINGS SCHEMATIC SYMBOLS FOR TRANSFORMERS	26	80	92	92	75	67	100	55	55	55	48	
C 153	C2-26 DO YOU REFER TO MULTIPLE TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	25	80	100	100	75	67	100	58	55	65	48	
C 154	C2-27 DO YOU REFER TO CENTER TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	26	80	92	92	75	67	100	63	62	65	61	
C 155	C2-28 DO YOU REFER TO AIR CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	15	40	58	58	75	67	100	37	40	30	35	
C 156	C2-29 DO YOU REFER TO IRON CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	17	40	58	58	75	67	100	40	48	25	48	
C 157	C2-30 DO YOU REFER TO COMBINATIONS OF THE ABOVE SCHEMATIC SYMBOLS FOR TRANSFORMERS	26	60	92	92	75	67	100	47	50	40	48	
C 158	C2-31 DO YOU DETERMINE PHASE RELATIONSHIPS BETWEEN SECONDARY AND PRIMARY VOLTAGES OF TRANSFORMERS USING SCHEMATIC SYMBOLS	19	80	42	42	50	67	0	32	31	35	17	
C 159	C2-32 DO YOU DETERMINE OR REFER TO THE TYPE OF CORE IN TRANSFORMERS YOU WORK WITH	8	40	42	42	25	33	0	18	19	15	9	
C 160	C2-33 DO YOU REFER TO OR USE THE GENERAL RULE THAT THE TURNS RATIO OF A TRANSFORMER IS EQUAL TO THE VOLTAGE RATIO	9	60	33	33	25	33	0	26	26	25	26	
C 161	C2-34 DO YOU USE OR REFER TO STEP-UP OR STEP-DOWN RATIOS FOR TRANSFORMERS	8	60	75	75	50	67	0	32	36	25	26	
C 162	C2-35 DO YOU CALCULATE VOLTAGE RATIOS FOR TRANSFORMERS USING TURNS RATIOS	9	40	25	25	25	33	0	23	29	10	26	
C 163	C2-36 DO YOU CALCULATE CURRENT RATIOS FOR TRANSFORMERS USING TURNS RATIOS	9	40	33	33	0	0	0	10	10	10	9	
C 164	C2-37 DOES YOUR JOB INVOLVE ANY TASKS DEALING WITH THREE PHASE TRANSFORMERS	17	60	58	58	50	67	0	52	48	60	48	
C 165	C2-38 DO YOU INSPECT THREE PHASE TRANSFORMERS	9	40	58	58	50	67	0	42	36	55	35	
C 166	C2-39 DO YOU CLEAN OR LUBRICATE THREE PHASE TRANSFORMERS	6	0	33	33	25	33	0	16	12	25	0	
C 167	C2-40 DO YOU ADJUST THREE PHASE TRANSFORMERS	6	20	25	25	0	0	0	8	5	15	9	
C 168	C2-41 DO YOU TROUBLESHOOT THREE PHASE TRANSFORMERS	19	60	67	67	25	33	0	32	29	40	22	
C 169	C2-42 DO YOU REMOVE OR REPLACE COMPLETE THREE PHASE TRANSFORMERS	9	20	67	67	50	67	0	37	33	45	26	
C 170	C2-43 DO YOU REMOVE OR REPLACE THREE PHASE TRANSFORMER PARTS SUCH AS WINDINGS	9	0	8	8	0	0	0	3	2	5	0	
C 171	C3-01 DO YOU USE OR REFER TO PERMANENT MAGNETS	30	80	67	67	50	67	0	61	57	70	39	
C 172	C3-02 DO YOU USE OR REFER TO TEMPORARY MAGNETS	19	60	58	58	0	0	0	31	29	45	26	
C 173	C3-03 DO YOU USE OR REFER TO RETENTIVITY OF MAGNETIC MATERIALS	8	40	17	17	0	0	0	13	10	20	9	
C 174	C3-04 DO YOU USE OR REFER TO RELUCTANCE OF MAGNETIC MATERIALS	6	40	25	25	0	0	0	11	10	15	9	MAGNETISM
C 175	C3-05 DO YOU USE OR REFER TO PERMEABILITY OF MAGNETIC MATERIALS	6	40	17	17	0	0	0	13	12	15	9	
C 176	C3-06 DO YOU USE OR REFER TO RESIDUAL MAGNETISM	6	40	33	33	0	0	0	11	10	15	9	
C 177	C3-07 DO YOU USE OR REFER TO MAGNETIC LINES OF FORCE OR FLUX	11	80	33	33	25	33	0	21	21	20	9	
C 178	C3-08 DO YOU USE OR REFER TO WEBER'S THEORY OF MAGNETISM	9	40	17	17	0	0	0	8	7	10	9	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
C	179	C3-09 DO YOU USE OR REFER TO DOMAIN THEORY OF MAGNETISM	4	40	17	17	0	0	0	6	5	10	4	
C	180	C3-10 DO YOU USE OR REFER TO MAGNETIC INDUCTION	9	80	33	33	0	0	0	24	24	25	26	
C	181	C3-11 DO YOU USE OR REFER TO FLUX DENSITY	8	40	25	25	0	0	0	11	10	15	9	
C	182	C3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT FOR MAGNETIC POLES, LIKE POLES REPEL AND UNLIKE POLES ATTRACT	19	80	75	75	0	0	0	40	40	40	30	
C	183	C3-13 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE DIRECTION OF MAGNETIC FIELDS ABOUT STRAIGHT WIRES	9	40	33	33	0	0	0	15	17	10	13	
C	184	C3-14 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE NORTH POLE OF A CURRENT CARRYING COIL	9	40	25	25	0	0	0	16	21	5	9	
D	185	D1-01 DO YOU WORK WITH RC, LR, RCL CIRCUITS IN YOUR PRESENT JOB	19	40	67	67	50	33	100	44	45	40	39	
D	186	D1-02 DO YOU USE OR REFER TO VECTORS WHEN WORKING WITH RCL CIRCUITS	6	40	17	17	0	0	0	8	10	5	9	
D	187	D1-03 DO YOU USE OR REFER TO PYTHAGOREAN THEOREM WHEN WORKING WITH RCL CIRCUITS	4	40	8	8	0	0	0	3	5	0	4	
D	188	D1-04 DO YOU USE OR REFER TO SINE WHEN WORKING WITH RCL CIRCUITS	13	40	50	50	0	0	0	19	17	25	17	RCL CIRCUITS
D	189	D1-05 DO YOU USE OR REFER TO COSINE WHEN WORKING WITH RCL CIRCUITS	13	40	50	50	0	0	0	19	17	25	17	
D	190	D1-06 DO YOU USE OR REFER TO TANGENT WHEN WORKING WITH RCL CIRCUITS	8	40	25	25	0	0	0	15	14	15	13	
D	191	D1-07 DO YOU USE OR REFER TO WATTS WHEN WORKING WITH RCL CIRCUITS	15	40	58	58	0	0	0	24	19	35	17	
D	192	D1-08 DO YOU USE OR REFER TO TRUE POWER (PT) WHEN WORKING WITH RCL CIRCUITS	11	40	42	42	0	0	0	10	10	10	9	
D	193	D1-09 DO YOU USE OR REFER TO MAXIMUM POWER (PM) WHEN WORKING WITH RCL CIRCUITS	13	40	58	58	25	0	100	15	14	15	13	
D	194	D1-10 DO YOU USE OR REFER TO AVERAGE POWER (PAVE) WHEN WORKING WITH RCL CIRCUITS	15	40	58	58	25	0	100	15	17	10	17	
D	195	D1-11 DO YOU USE OR REFER TO APPARENT POWER (PA) WHEN WORKING WITH RCL CIRCUITS	9	40	42	42	0	0	0	5	5	5	4	
D	196	D1-12 DO YOU USE OR REFER TO POWER FACTOR (PF) WHEN WORKING WITH RCL CIRCUITS	8	40	42	42	0	0	0	6	7	5	4	
D	197	D1-13 DO YOU USE OR REFER TO RESONANT CIRCUITS WHEN WORKING WITH RCL CIRCUITS	8	40	58	58	25	0	100	31	26	40	17	
D	198	D1-14 DO YOU USE OR REFER TO BANDWIDTH WHEN WORKING WITH RCL CIRCUITS	17	40	58	58	25	0	100	27	24	35	13	
D	199	D1-15 DO YOU USE OR REFER TO SELECTIVITY WHEN WORKING WITH RCL CIRCUITS	13	40	50	50	0	0	0	21	21	20	13	
D	200	D1-16 DO YOU USE OR REFER TO RESONANT FREQUENCY WHEN WORKING WITH RCL CIRCUITS	17	40	67	67	25	0	100	35	33	40	26	
D	201	D1-17 DO YOU USE OR REFER TO HALF POWER POINTS WHEN WORKING WITH RCL CIRCUITS	8	40	42	42	25	0	100	8	7	10	4	
D	202	D1-18 DO YOU USE OR REFER TO BANDPASS REGION WHEN WORKING WITH RCL CIRCUITS	11	40	67	67	25	0	100	19	19	20	4	
D	203	D1-19 DO YOU USE OR REFER TO CIRCUIT Q WHEN WORKING WITH RCL CIRCUITS	6	40	58	58	25	0	100	13	14	10	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075
D 204	DI-20 DO YOU USE OR REFER TO TANK CIRCUITS WHEN WORKING WITH RCL CIRCUITS	13	90	67	67	25	0	100	31	31	30	22
D 205	DI-21 DO YOU DETERMINE VALUES OF TRIGONOMETRIC FUNCTIONS USING FORMULAS	6	90	8	8	0	0	0	3	2	5	9
D 206	DI-22 DO YOU DRAW VOLTAGE, CURRENT, OR IMPEDANCE VECTOR DIAGRAMS FOR CIRCUITS	6	90	8	8	0	0	0	3	2	5	0
D 207	DI-23 DO YOU CALCULATE TOTAL IMPEDANCE FOR CAPACITIVE CIRCUITS	9	90	25	25	0	0	0	10	7	15	9
D 208	DI-24 DO YOU CALCULATE PHASE ANGLES BETWEEN IMPEDANCE AND RESISTANCE IN CAPACITIVE CIRCUITS	9	90	17	17	0	0	0	2	0	5	0
D 209	DI-25 DO YOU CALCULATE TOTAL IMPEDANCE FOR SERIES RCL CIRCUITS	9	90	25	25	0	0	0	8	7	10	9
D 210	DI-26 DO YOU CALCULATE IMPEDANCE ANGLES FOR SERIES RCL CIRCUITS	9	90	17	17	0	0	0	5	2	10	9
D 211	DI-27 DO YOU CALCULATE APPARENT POWER (PA) FOR SERIES RCL CIRCUITS	9	90	25	25	0	0	0	6	5	10	9
D 212	DI-28 DO YOU CALCULATE TRUE POWER (PT) FOR SERIES RCL CIRCUITS	9	90	33	33	0	0	0	6	5	10	9
D 213	DI-29 DO YOU CALCULATE POWER FACTORS (PF) FOR SERIES RCL CIRCUITS	9	90	17	17	0	0	0	6	5	10	9
D 214	DI-30 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RCL CIRCUITS	9	90	17	17	0	0	0	6	5	10	9
D 215	DI-31 DO YOU CALCULATE IMPEDANCE ANGLES FOR PARALLEL RCL CIRCUITS	9	90	17	17	0	0	0	3	0	10	0
D 216	DI-32 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING THE ASSUMED VOLTAGE METHOD	9	90	17	17	0	0	0	6	5	10	9
D 217	DI-33 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING OHM'S LAW	6	90	33	33	0	0	0	10	7	15	13
D 218	DI-34 DO YOU CHECK CAPACITORS USING OHMMETERS	21	90	83	83	50	33	100	31	26	90	26
D 219	DI-35 DO YOU CHECK CAPACITORS USING SUBSTITUTION	6	20	75	75	50	33	100	23	19	90	9
D 220	DI-36 DO YOU CHECK INDUCTORS USING OHMMETERS	17	90	75	75	50	33	100	27	21	90	22
D 221	DI-37 DO YOU CHECK INDUCTORS USING SUBSTITUTION	6	20	67	67	50	33	100	21	12	90	9
D 222	DI-38 DO YOU USE OR REFER TO THE GENERAL RULE THAT THETA= 0, PF = 1, AND PA = PT FOR RESONANT CIRCUITS	9	20	8	8	0	0	0	2	2	0	9
D 223	DI-39 DO YOU CALCULATE RESONANT FREQUENCIES FOR RCL CIRCUITS	6	90	25	25	25	33	0	11	12	10	9
D 224	DI-40 DO YOU USE OR REFER TO THE GENERAL RULE THAT IMPEDANCE IS MINIMUM AND CURRENT MAXIMUM AT THE RESONANT FREQUENCY FOR SERIES RCL CIRCUITS	8	90		33	25	33	0	5	2	10	9
D 225	DI-41 DO YOU USE OR REFER TO THE GENERAL RULE THAT LINE CURRENT IS MINIMUM AND IMPEDANCE MAXIMUM AT RESONANT FREQUENCY FOR PARALLEL RCL CIRCUITS	8	90	25	25	25	33	0	6	2	15	9
D 226	DI-42 DO YOU USE OR REFER TO THE GENERAL RULE THAT HALF POWER POINTS ARE AT 70.7 PERCENT OF THE PEAK CURRENT VALUE	6	90	50	50	25	33	0	11	12	10	9
D 227	DI-43 DO YOU USE OR REFER TO THE GENERAL RULE THAT BANDWIDTH IS INVERSELY PROPORTIONAL TO Q	9	90	33	33	25	33	0	5	5	5	9
D 228	DI-44 DO YOU DETERMINE HOW CHANGES IN FREQUENCY, RESISTANCE, CAPACITANCE, OR INDUCTANCE WILL AFFECT CURRENT OR PHASE ANGLES FOR RCL CIRCUITS	8	90	17	17	0	0	0	6	10	5	9

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
D 229	D2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH, USE, OR REFER TO SERIES OR PARALLEL RESONANT CIRCUITS OR TIME CONSTANTS	17	40	42	42	50	33	100	23	29	10	22	
D 230	D2-02 DO YOU WORK WITH, USE, OR REFER TO TIME CONSTANTS	11	40	42	42	25	33	0	19	29	10	13	
D 231	D2-03 DO YOU WORK WITH, USE, OR REFER TO AVAILABLE VOLTAGE	13	40	25	25	0	0	0	6	7	5	9	SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)
D 232	D3-09 DO YOU WORK WITH, USE, OR REFER TO TRANSIENT INTERVALS	6	40	17	17	0	0	0	6	7	5	9	
D 233	D2-05 DO YOU USE OR REFER TO THE GENERAL RULE THAT A CAPACITOR IS FULLY CHARGED (OR DISCHARGED) AFTER FIVE (5) TIME CONSTANTS (TC)	9	40	25	25	0	0	0	18	29	5	17	
D 234	D2-06 DO YOU USE OR REFER TO UNIVERSAL TIME CONSTANT CHARTS	9	40	0	0	0	0	0	6	7	5	9	
D 235	D2-07 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CIRCUIT CURRENT OR COMPONENT VOLTAGES AFTER A SPECIFIC TIME FOR RC OR LR CIRCUITS	9	40	0	0	0	0	0	5	5	5	9	
D 236	D2-08 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE THE TIME REQUIRED FOR CIRCUIT CURRENT OR COMPONENT VOLTAGES TO REACH SPECIFIC VALUES FOR RC OR LR CIRCUITS	9	40	25	25	0	0	0	3	2	5	9	
D 237	D2-09 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE COMPONENT VALUES REQUIRED FOR CIRCUIT CURRENT AND COMPONENT VOLTAGES TO REACH SPECIFIC VALUES IN SPECIFIC TIMES	9	40	17	17	0	0	0	3	2	5	9	
D 238	D2-10 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT IN LR CIRCUITS REACHES ITS MINIMUM VALUE (OR ZERO) AFTER FIVE (5) TIME CONSTANTS	9	40	25	25	0	0	0	8	10	5	13	
D 239	D3-01 DO YOU WORK WITH CIRCUITS USED AS FILTERS IN YOUR PRESENT JOB	39	80	83	83	50	33	100	40	40	40	30	
D 240	D3-02 DO YOU INSPECT FILTER CIRCUITS	19	40	92	92	50	33	100	31	26	40	17	
D 241	D3-03 DO YOU CLEAN FILTER CIRCUITS	11	20	75	75	25	0	100	26	19	40	9	
D 242	D3-04 DO YOU ALIGN OR ADJUST FILTER CIRCUITS	17	40	58	58	25	33	0	23	29	20	17	
D 243	D3-05 DO YOU TROUBLESHOOT TO THE FILTER CIRCUIT LEVEL	32	60	83	83	0	0	0	27	29	35	13	FILTERS
D 244	D3-06 DO YOU TROUBLESHOOT TO COMPONENT PARTS	15	60	83	83	50	33	100	29	19	35	13	
D 245	D3-07 DO YOU REMOVE OR REPLACE THE COMPLETE FILTER CIRCUIT	26	60	83	83	50	33	100	26	19	40	9	
D 246	D3-08 DO YOU REMOVE OR REPLACE FILTER CIRCUIT COMPONENT PARTS	13	20	92	92	25	33	0	23	17	35	9	
D 247	D3-09 DO YOU WORK WITH LOW PASS FILTERS	13	40	58	58	50	33	100	29	26	20	13	
D 248	D3-10 DO YOU WORK WITH HIGH PASS FILTERS	13	40	58	58	50	33	100	29	26	20	13	
D 249	D3-11 DO YOU WORK WITH BANDPASS FILTERS	15	40	50	50	50	33	100	26	29	20	17	
D 250	D3-12 DO YOU WORK WITH BAND-REJECT FILTERS	11	40	33	33	25	0	100	29	26	20	17	
D 251	D3-13 DON'T REMEMBER WHICH TYPE OF FILTER YOU WORK WITH	17	40	33	33	25	33	0	23	21	25	26	
D 252	D3-14 DO YOU WORK WITH L-SECTION FILTER CONFIGURATION	6	40	92	92	50	33	100	26	29	20	17	
D 253	D3-15 DO YOU WORK WITH T-SECTION FILTER CONFIGURATION	6	40	92	92	25	0	100	19	19	20	13	
D 254	D3-16 DO YOU WORK WITH PI-SECTION FILTER CONFIGURATION	9	40	33	33	25	0	100	18	19	15	13	
D 255	D3-17 DON'T REMEMBER WHICH TYPE FILTER CONFIGURATION	28	40	25	25	0	0	0	23	21	25	26	
D 256	D3-18 DO THE FILTERS YOU WORK WITH USE PARALLEL RESONANT CIRCUITS	13	60	67	67	50	33	100	23	29	20	26	
D 257	D3-19 DO THE FILTERS YOU WORK WITH USE SERIES-PARALLEL CIRCUITS	17	60	58	58	50	33	100	29	31	25	26	
D 258	D3-20 DO THE FILTERS YOU WORK WITH USE SERIES RESONANT CIRCUITS	13	40	58	58	50	33	100	27	31	20	26	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
D 259	D3-21 DON'T REMEMBER WHICH TYPE OF BASIC CIRCUIT	21	20	33	33	0	0	0	23	21	25	22	
D 260	D3-22 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CAPACITANCE OR INDUCTANCE VALUES REQUIRED FOR SPECIFIC FILTERS	4	20	17	17	0	0	0	6	10	0	9	
E 261	E1-01 DO YOU WORK WITH COUPLING DEVICES IN YOUR PRESENT JOB	19	40	67	67	75	67	100	47	48	45	35	
E 262	E1-02 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH RC COUPLING	21	40	58	58	75	67	100	44	45	40	35	
E 263	E1-03 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH IMPEDANCE COUPLING	17	40	67	67	75	67	100	44	45	40	35	COUPLING
E 264	E1-04 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH TRANSFORMER COUPLING	15	40	67	67	75	67	100	45	48	40	43	
E 265	E1-05 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM RC COUPLING	21	40	58	58	75	67	100	40	40	40	35	
E 266	E1-06 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM IMPEDANCE COUPLING	15	40	67	67	75	67	100	39	40	35	35	
E 267	E1-07 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM TRANSFORMER COUPLING	15	40	67	67	75	67	100	39	38	40	30	
E 268	E1-08 DO YOU WORK WITH DIRECTLY COUPLED CIRCUITS	11	40	50	50	75	67	100	37	38	35	30	
E 269	E1-09 DO YOU WORK WITH CAPACITIVE-RESISTIVE COUPLED CIRCUITS	15	40	50	50	75	67	100	39	40	35	30	
E 270	E1-10 DO YOU WORK WITH CAPACITIVE-INDUCTIVE COUPLED CIRCUITS	9	40	50	50	75	67	100	39	43	30	35	
E 271	E1-11 DO YOU WORK WITH TRANSFORMER COUPLED CIRCUITS	13	40	50	50	75	67	100	42	45	35	39	
E 272	E1-12 DON'T REMEMBER WHICH TYPE OF COUPLING CIRCUITS	8	0	17	17	0	0	0	19	19	20	26	
E 273	E2-01 IN YOUR PRESENT JOB, DO YOU PERFORM SOLDERING TECHNIQUES OR INSPECT OR EVALUATE SOLDERED CONNECTIONS	79	20	100	100	100	100	100	81	79	85	83	
E 274	E2-02 DO YOU SELECT TYPE OF SOLDER TO USE	64	20	92	92	75	67	100	61	60	65	65	
E 275	E2-03 DO YOU ADD FLUX TO CONNECTIONS	57	20	92	92	50	33	100	63	60	70	65	
E 276	E2-04 DO YOU CLEAN CONNECTIONS USING SOLVENTS	55	20	100	100	75	100	0	58	55	65	48	SOLDERING
E 277	E2-05 DO YOU STRIP INSULATION FROM WIRES	77	20	100	100	100	100	100	82	81	85	87	
E 278	E2-06 DO YOU CONNECT OR DISCONNECT HEAT SINKS	53	20	100	100	100	100	100	60	62	55	61	
E 279	E2-07 DO YOU BEND OR SHAPE WIRES OR LEADS	75	20	100	100	100	100	100	81	81	80	87	
E 280	E2-08 DO YOU CUT WIRES	79	20	100	100	100	100	100	82	81	85	87	
E 281	E2-09 DO YOU FILE OR SHAPE SOLDERING IRON TIPS	57	20	67	67	75	67	100	60	60	60	61	
E 282	E2-10 DO YOU TIN SOLDERING IRON TIPS	75	20	100	100	100	100	100	81	79	85	87	
E 283	E2-11 DO YOU CLEAN SOLDERING IRON TIPS	75	20	100	100	75	67	100	82	81	85	87	
E 284	E2-12 DO YOU CLEAN ELECTRICAL SURFACES USING ERASERS	53	20	83	83	50	67	0	29	31	25	26	
E 285	E2-13 DO YOU TIN OR PRE-TIN CONDUCTORS	70	20	92	92	100	100	100	79	79	75	83	
E 286	E2-14 DO YOU INSPECT SOLDERED CONNECTIONS	77	20	100	100	100	100	100	76	79	80	83	
E 287	E2-15 DO YOU DESOLDER CONNECTIONS BY WICKING	45	20	83	83	25	33	0	48	45	55	52	
E 288	E2-16 DO YOU DESOLDER CONNECTIONS USING VACUUM DESOLDERING TOOLS	53	20	92	92	100	100	100	69	69	70	65	
E 289	E2-17 DO YOU CUT COMPONENT LEADS TO REMOVE COMPONENTS	45	20	83	83	25	33	0	52	45	65	52	
E 290	E2-18 DO YOU CRUSH COMPONENTS FOR REMOVAL	19	0	33	33	25	33	0	27	29	35	35	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
E	291	E2-19 DO YOU MAKE HARDWIRE CONNECTIONS	66	20	92	92	100	100	100	73	74	70	74	
E	292	E2-20 DO YOU MAKE PRINTED CIRCUIT BOARD CONNECTIONS	13	0	100	100	50	33	100	53	50	60	43	
E	293	E2-21 DO YOU SOLDER PASSIVE COMPONENTS SUCH AS RESISTORS OR CAPACITORS ON PRINTED CIRCUIT BOARDS	13	0	100	100	75	67	100	50	48	55	43	
E	294	E2-22 DO YOU SOLDER ACTIVE COMPONENTS SUCH AS SOLID-STATE DIODES OR TRANSISTORS ON PRINTED CIRCUIT BOARDS	13	0	100	100	50	33	100	48	45	55	39	
E	295	E3-01 DO YOU WORK WITH RELAYS ON YOUR PRESENT JOB	66	80	100	100	100	100	100	82	81	85	78	
E	296	E3-02 DO YOU ADJUST RELAYS	23	0	50	50	0	0	0	23	24	20	26	
E	297	E3-03 DO YOU CLEAN RELAYS	19	0	67	67	25	33	0	29	21	45	17	RELAYS
E	298	E3-04 DO YOU INSPECT RELAYS	45	40	100	100	50	67	0	56	55	60	61	
E	299	E3-05 DO YOU REMOVE OR REPLACE COMPLETE RELAYS	36	60	100	100	75	67	100	69	64	80	65	
E	300	E3-06 DO YOU REMOVE OR REPLACE PARTS OR RELAYS	11	0	25	25	0	0	0	13	12	15	17	
E	301	E3-07 DO YOU TROUBLESHOOT RELAYS	68	80	100	100	100	100	100	69	67	75	70	
E	302	E3-08 DO YOU STRAIGHTEN RELAY CONTACTS	19	20	42	42	50	33	100	34	29	45	30	
E	303	E3-09 DO YOU PERFORM TASKS ON RELAY CONTACTS	13	0	42	42	25	33	0	29	29	40	30	
E	304	E3-10 DO YOU PERFORM TASKS ON RELAY CORES	6	0	8	8	0	0	0	5	2	10	4	
E	305	E3-11 DO YOU PERFORM TASKS ON RELAY COILS	9	0	17	17	0	0	0	10	7	15	9	
E	306	E3-12 DO YOU PERFORM TASKS ON RELAY ARMATURES	6	0	8	8	0	0	0	6	5	10	4	
E	307	E3-13 DO YOU PERFORM TASKS ON RELAY SPRINGS	6	0	8	8	0	0	0	10	7	15	13	
E	308	E3-14 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY OPER (NO) SCHEMATIC SYMBOLS FOR RELAYS	51	80	92	92	75	67	100	69	71	65	65	
E	309	E3-15 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY CLOSED (NC) SCHEMATIC SYMBOLS FOR RELAYS	51	80	92	92	75	67	100	69	71	65	65	
E	310	E3-16 DO YOU USE OR REFER TO SINGLE POLE, DOUBLE THROW (SPDT) SCHEMATIC SYMBOLS FOR RELAYS	47	80	100	100	75	67	100	69	74	60	70	
E	311	E3-17 DO YOU USE OR REFER TO DOUBLE POLE, DOUBLE THROW (DPDT) SCHEMATIC SYMBOLS FOR RELAYS	49	80	100	100	75	67	100	69	71	65	65	
E	312	E3-18 DO YOU USE OR REFER TO OTHER RELAY SYMBOLS SCHEMATIC SYMBOLS FOR RELAYS	55	80	100	100	50	33	100	66	67	65	61	
E	313	E3-19 DO YOU CHECK ELECTRICAL CONTINUITY OF COILS BY MEASURING RESISTANCE	60	80	100	100	75	67	100	68	67	70	65	
F	314	F1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH MICROPHONES	6	20	8	8	0	0	0	6	10	0	13	
F	315	F1-02 DO YOU INSPECT MICROPHONES	4	0	8	8	0	0	0	3	5	0	9	
F	316	F1-03 DO YOU CLEAN MICROPHONES	2	0	8	8	0	0	0	2	2	0	4	
F	317	F1-04 DO YOU OPERATE MICROPHONES	6	20	8	8	0	0	0	5	7	0	9	MICROPHONES
F	318	F1-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OR MICROPHONES	4	20	8	8	0	0	0	5	7	0	13	
F	319	F1-06 DO YOU TROUBLESHOOT DOWN TO MICROPHONE PARTS	2	0	8	8	0	0	0	2	2	0	4	
F	320	F1-07 DO YOU REMOVE OR REPLACE COMPLETE MICROPHONES	4	0	8	8	0	0	0	3	5	0	9	
F	321	F1-08 DO YOU REMOVE OR REPLACE MICROPHONE PARTS	2	0	8	8	0	0	0	2	2	0	4	
F	322	F1-09 DO YOU PERFORM TASKS ON CARBON MICROPHONES	2	0	8	8	0	0	0	3	5	0	9	
F	323	F1-10 DO YOU PERFORM TASKS ON CAPACITOR MICROPHONES	2	0	8	8	0	0	0	2	2	0	4	
F	324	F1-11 DO YOU PERFORM TASKS ON CRYSTAL MICROPHONES	2	0	8	8	0	0	0	3	5	0	9	
F	325	F1-12 DO YOU PERFORM TASKS ON DYNAMIC MICROPHONES	2	0	8	8	0	0	0	2	2	0	4	
F	326	F1-13 DO YOU PERFORM TASKS ON VELOCITY RIBBON MICROPHONES	2	0	8	8	0	0	0	2	2	0	4	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
F 327	F2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH SPEAKERS	6	20	25	25	0	0	0	2	2	0	4	
F 328	F2-02 DO YOU INSPECT SPEAKERS	2	20	17	17	0	0	0	2	2	0	4	
F 329	F2-03 DO YOU CLEAN SPEAKERS	2	0	8	8	0	0	0	0	0	0	0	SPEAKERS
F 330	F2-04 DO YOU OPERATE SPEAKERS	4	0	17	17	0	0	0	2	2	0	4	
F 331	F2-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OF SPEAKERS	6	20	25	25	0	0	0	2	2	0	4	
F 332	F2-06 DO YOU TROUBLESHOOT DOWN TO SPEAKER PARTS	2	0	8	8	0	0	0	0	0	0	0	
F 333	F2-07 DO YOU REMOVE OR REPLACE COMPLETE SPEAKERS	4	0	25	25	0	0	0	0	0	0	0	
F 334	F2-08 DO YOU REMOVE OR REPLACE SPEAKER PARTS	2	0	8	8	0	0	0	0	0	0	0	
F 335	F2-09 DO YOU PERFORM ANY TASKS ON SPEAKER CONES	2	0	8	8	0	0	0	0	0	0	0	
F 336	F2-10 DO YOU PERFORM ANY TASKS ON SPEAKER SPIDERS	2	0	8	8	0	0	0	0	0	0	0	
F 337	F2-11 DO YOU PERFORM ANY TASKS ON SPEAKER FIELD COILS	2	0	8	8	0	0	0	0	0	0	0	
F 338	F2-12 DO YOU PERFORM ANY TASKS ON SPEAKER VOICE COILS	2	0	8	8	0	0	0	0	0	0	0	
F 339	F2-13 DO YOU PERFORM ANY TASKS ON SPEAKER PERMANENT MAGNETS	2	20	8	8	0	0	0	0	0	0	0	
F 340	F2-14 DO YOU PERFORM ANY TASKS ON SPEAKER ELECTROMAGNETS	2	20	8	8	0	0	0	0	0	0	0	
F 341	F2-15 DO YOU PERFORM ANY TASKS ON SPEAKER SOFT IRON CORES	2	20	8	8	0	0	0	0	0	0	0	
F 342	F3-01 DO YOU USE OSCILLOSCOPES IN YOUR PRESENT JOB	85	100	100	100	100	100	100	79	79	80	70	
F 343	F3-02 DO YOU USE OSCILLOSCOPES TO PERFORM OPERATIONAL CHECKS	83	100	100	100	100	100	100	66	69	60	65	
F 344	F3-03 DO YOU USE OSCILLOSCOPES TO PERFORM ALIGNMENTS OR ADJUSTMENTS	83	100	100	100	100	100	100	77	76	80	70	
F 345	F3-04 DO YOU USE OSCILLOSCOPES TO TROUBLESHOOT ELECTRONIC CIRCUITS	85	80	100	100	100	100	100	69	69	70	70	OSCILLOSCOPES
F 346	F3-05 DO YOU USE OSCILLOSCOPES TO MEASURE FREQUENCY	79	80	92	92	100	100	100	65	69	55	61	
F 347	F3-06 DO YOU USE OSCILLOSCOPES TO MEASURE TIME	66	100	100	100	100	100	100	47	50	40	43	
F 348	F3-07 DO YOU USE OSCILLOSCOPES TO OBSERVE LISAJOUS PATTERNS	53	80	100	100	0	0	0	37	38	35	35	
F 349	F3-08 DO YOU USE OSCILLOSCOPES TO OBSERVE SIGNALS WHILE UTILIZING ATTENUATOR PROBES	77	100	100	100	75	67	100	60	69	40	61	
F 350	F3-09 DO YOU USE OSCILLOSCOPES TO MAKE FREQUENCY OR TIME MEASUREMENTS USING DELAY TIME MULTIPLIERS	40	60	92	92	0	0	0	31	33	25	35	
F 351	F3-10 DO YOU USE OSCILLOSCOPES TO MEASURE AC VOLTAGE	87	100	92	92	100	100	100	71	69	75	61	
F 352	F3-11 DO YOU USE OSCILLOSCOPES TO MEASURE OR OBSERVE SIGNALS AFTER FIRST ADJUSTING THE GAIN AND DC BAL CONTROLS	74	100	100	100	50	67	0	63	69	50	65	
F 353	F3-12 DO YOU USE OSCILLOSCOPES TO MEASURE DC VOLTAGE	87	100	100	100	100	100	100	73	79	70	70	
G 354	G1-01 DO YOU WORK WITH SEMICONDUCTOR DIODES IN YOUR PRESENT JOB	26	80	100	100	75	67	100	56	57	55	52	
G 355	G1-02 DO YOU INSPECT DIODES	23	60	100	100	75	67	100	50	48	55	48	SEMICONDUCTOR DIODES
G 356	G1-03 DO YOU REMOVE OR REPLACE DIODES	17	0	100	100	75	67	100	48	45	55	39	
G 357	G1-04 DO YOU CHECK DIODES USING AN INSTRUMENT	25	60	100	100	75	67	100	53	52	55	52	
G 358	G1-05 DO YOU USE ENERGY LEVEL DIAGRAMS IN YOUR WORK WITH DIODES	8	20	25	25	0	0	0	3	2	5	0	
G 359	G1-06 DO YOU USE PN JUNCTION DIODE CHARACTERISTIC CURVES, TOGETHER WITH VALUES OF FORWARD AND REVERSE BIAS VOLTAGE, TO COMPUTE FORWARD OR REVERSE BIAS RESISTANCE	6	60	33	33	0	0	0	8	10	5	9	
G 360	G1-07 DO YOU COMPUTE FORWARD OR REVERSE BIAS RESISTANCE FOR DIODES	9	40	50	50	50	67	0	11	10	15	13	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075
G 361	G1-08 DO YOU USE OR REFER TO THE GENERAL RULE THAT TEMPERATURE CAN AFFECT THE OPERATION OF DIODES	9	60	100	100	25	33	0	39	38	40	22
G 362	G1-09 DO YOU IDENTIFY SEMICONDUCTOR DIODES AS OPPOSED TO OTHER ELECTRONIC COMPONENTS, SUCH AS RESISTORS, BASED ON THEIR PHYSICAL APPEARANCE	23	80	100	100	75	67	100	44	38	55	35
G 363	G1-10 DO YOU REFER TO OR DO YOU DETERMINE THE GENERAL EFFECTS OF DOPING ON CURRENT FLOW	4	60	17	17	0	0	0	10	5	20	0
G 364	G1-11 DO YOU USE OR REFER TO MEASUREMENTS OF FORWARD BIAS RESISTANCE	9	60	75	75	50	33	100	31	26	40	17
G 365	G1-12 DO YOU USE OR REFER TO DIODE COLOR CODING	8	20	75	75	75	67	100	19	19	20	22
G 366	G1-13 DO YOU USE OR REFER TO CENTRIFUGAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	2	40	8	8	0	0	0	3	5	0	4
G 367	G1-14 DO YOU USE OR REFER TO CENTRIPETAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	4	40	8	8	0	0	0	3	5	0	4
G 368	G1-15 DO YOU USE OR REFER TO DIODE NUMBERING SYSTEM, SUCH AS IN 538	15	20	100	100	75	67	100	37	31	50	26
G 369	G1-16 DO YOU USE OR REFER TO KINETIC ENERGY OF AN ELECTRON MOVING IN ORBIT	2	40	8	8	0	0	0	2	2	0	0
G 370	G1-17 DO YOU USE OR REFER TO POTENTIAL ENERGY OF AN ELECTRON MOVING IN ORBIT	2	40	8	8	0	0	0	2	2	0	0
G 371	G1-18 DO YOU USE OR REFER TO MEASUREMENTS OF REVERSE BIAS RESISTANCE	15	60	92	92	50	33	100	32	26	45	17
G 372	G1-19 DO YOU USE OR REFER TO NUMBER OF ELECTRONS IN A PARTICULAR SHELL OR ORBIT	4	40	8	8	0	0	0	2	2	0	0
G 373	G1-20 DO YOU USE OR REFER TO PERMISSIBLE ENERGY LEVELS OF AN ORBITING ELECTRON	4	20	8	8	0	0	0	2	2	0	0
G 374	G1-21 DO YOU USE OR REFER TO FORBIDDEN ENERGY LEVELS OF AN ORBITING ELECTRON	4	40	8	8	0	0	0	2	2	0	0
G 375	G1-22 DO YOU USE OR REFER TO VALENCE ELECTRONS (THOSE IN THE OUTERMOST SHELL)	4	40	8	8	0	0	0	2	2	0	0
G 376	G1-23 DO YOU USE OR REFER TO ATOMIC NUMBER (TOTAL NUMBER OF ELECTRONS IN ATOM)	4	20	8	8	0	0	0	2	2	0	0
G 377	G1-24 DO YOU USE OR REFER TO SYMBOLS ON THE DIODE WHICH INDICATE THE CATHODE END	17	80	92	92	75	67	100	53	55	50	43
G 378	G1-25 DO YOU NEED TO KNOW WHICH MATERIALS ARE USED IN THE CONSTRUCTION OF DIODES SUCH AS GERMANIUM OR SILICON	2	40	17	17	25	0	100	8	5	15	4
G 379	G1-26 DO YOU NEED TO KNOW THAT SEMICONDUCTORS HAVE NEGATIVE TEMPERATURE COEFFICIENTS OF RESISTANCE (AS TEMPERATURE INCREASES RESISTANCE DECREASES)	0	40	50	50	50	33	100	24	24	25	17
G 380	G1-27 DO YOU USE OR REFER TO PN JUNCTION DIODE CHARACTERISTIC CURVES, SUCH AS VOLTAGE - CURRENT CHARACTERISTIC CURVES (PERHAPS YOU DO THIS TO IDENTIFY POINTS OF STRUCTURAL BREAKDOWN OR OPERATING REGIONS)	0	20	33	33	25	33	0	11	12	10	4
G 381	G1-28 DO YOU DETERMINE WHETHER PN JUNCTION DIODES ARE FORWARD BIASED OR REVERSE BIASED WHEN YOU READ OR INTERPRET CIRCUIT DIAGRAMS	6	60	83	83	50	33	100	45	45	45	35
G 382	G1-29 DO YOU USE OR REFER TO VALENCE BAND IN SEMICONDUCTOR MATERIALS	2	40	17	17	0	0	0	8	7	10	4

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	BY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
G 383	G1-30 DO YOU USE OR REFER TO FORBIDDEN BAND IN SEMICONDUCTOR MATERIALS	0	40	8	8	0	0	0	8	7	10	9	
G 384	G1-31 DO YOU USE OR REFER TO CONDUCTION BAND IN SEMICONDUCTOR MATERIALS	0	40	25	25	0	0	0	8	7	10	9	
G 385	G1-32 DO YOU USE OR REFER TO COVALENT BONDING IN SEMICONDUCTOR MATERIALS	0	40	8	8	0	0	0	5	5	5	0	
G 386	G1-33 DO YOU USE OR REFER TO ELECTRON-HOLE PAIR CREATED IN SEMICONDUCTORS	0	40	17	17	0	0	0	2	2	0	0	
G 387	G1-34 DO YOU USE OR REFER TO ELECTRON FLOW OR HOLE FLOW IN SEMICONDUCTORS	4	60	25	25	0	0	0	5	5	5	4	
G 388	G1-35 DO YOU USE OR REFER TO DONOR IMPURITY IN SEMICONDUCTORS	0	40	17	17	0	0	0	2	2	0	0	
G 389	G1-36 DO YOU USE OR REFER TO ACCEPTOR IMPURITY IN SEMICONDUCTORS	0	40	8	8	0	0	0	2	2	0	0	
G 390	G1-37 DO YOU USE OR REFER TO P-TYPE SEMICONDUCTOR MATERIAL	2	60	75	75	25	33	0	10	10	10	4	
G 391	G1-38 DO YOU USE OR REFER TO N-TYPE SEMICONDUCTOR MATERIAL	2	60	75	75	25	33	0	10	10	10	4	
G 392	G1-39 DO YOU USE OR REFER TO MAJORITY CARRIERS IN SEMICONDUCTORS	0	40	8	8	0	0	0	3	2	5	0	
G 393	G1-40 DO YOU USE OR REFER TO MINORITY CARRIERS IN SEMICONDUCTORS	0	40	8	8	0	0	0	3	2	5	0	
G 394	G1-41 DO YOU USE OR REFER TO JUNCTION RECOMBINATION IN SEMICONDUCTORS	0	40	8	8	0	0	0	3	2	5	0	
G 395	G1-42 DO YOU USE OR REFER TO DEPLETION REGION IN SEMICONDUCTORS	0	40	33	33	0	0	0	3	2	5	0	
G 396	G1-43 DO YOU USE OR REFER TO RELATIONSHIP BETWEEN BARRIER WIDTH AND DIFFERENCE OF POTENTIAL	0	40	17	17	0	0	0	2	2	0	0	
G 397	G1-44 DO YOU USE OR REFER TO THE 10:1 BACK TO FRONT RESISTANCE RATIO FOR DIODES	11	40	58	58	75	67	100	21	29	15	22	
G 398	G1-45 DO YOU USE OR REFER TO BARRIER HEIGHT IN SEMICONDUCTORS	2	20	17	17	0	0	0	5	7	0	9	
G 399	G1-46 DO YOU USE OR REFER TO DIODE SUBSTITUTION INFORMATION	6	20	75	75	75	67	100	24	17	40	17	
G 400	G1-47 DO YOU USE OR REFER TO MAXIMUM AVERAGE FORWARD CURRENT DIODE RATINGS	4	20	42	42	25	0	100	5	5	5	4	
G 401	G1-48 DO YOU USE OR REFER TO PEAK RECURRENT FORWARD CURRENT DIODE RATINGS	4	20	33	33	0	0	0	5	5	5	4	
G 402	G1-49 DO YOU USE OR REFER TO MAXIMUM SURGE CURRENT DIODE RATINGS	2	20	33	33	0	0	0	5	5	5	4	
G 403	G1-50 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE DIODE RATINGS	2	20	50	50	25	0	100	15	19	5	4	
G 404	G2-01 DO YOU WORK WITH TRANSISTORS IN YOUR PRESENT JOB.	26	80	100	100	75	67	100	58	60	55	57	
G 405	G2-02 DO YOU INSPECT TRANSISTORS	17	60	100	100	75	67	100	47	43	55	39	
G 406	G2-03 DO YOU REMOVE OR REPLACE TRANSISTORS	8	20	100	100	75	67	100	48	45	55	39	
G 407	G2-04 DO YOU CHECK TRANSISTORS USING AN INSTRUMENT	17	80	100	100	75	67	100	42	36	55	26	
G 408	G2-05 DO YOU USE OR REFER TO EMITTER - BASE (EB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	9	80	100	100	75	67	100	37	33	45	26	TRANSISTORS
G 409	G2-06 DO YOU USE OR REFER TO COLLECTOR - BASE (CB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	11	60	100	100	75	67	100	37	33	45	26	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
G 410 G2-07 DO YOU USE OR REFER TO EMITTER - COLLECTOR (EC) RESISTANCE MEASUREMENTS	9	60	100	100	75	67	100	37	33	45	26	
G 411 G2-08 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE EMITTER - BASE JUNCTION	9	80	42	42	0	0	0	26	26	25	17	
G 412 G2-09 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE COLLECTOR - BASE JUNCTION	9	80	33	33	0	0	0	23	24	20	17	
G 413 G2-10 DO YOU USE OR REFER TO THE PHYSICAL SIZE OF THE TRANSISTOR STRUCTURE (COLLECTOR, BASE AND EMITTER)	6	60	75	75	25	33	0	31	29	35	26	
G 414 G2-11 DO YOU USE OR REFER TO LEAKAGE CURRENT (ICBO) IN A TRANSISTOR	9	40	50	50	0	0	0	10	12	5	9	
G 415 G2-12 DO YOU USE OR REFER TO TRANSISTOR SCHEMATIC SYMBOLS	21	80	100	100	75	67	100	50	48	55	35	
G 416 G2-13 DO YOU USE OR REFER TO TRANSISTOR NOTATION SUCH AS Q1, Q2, Q3, ETC	17	80	100	100	75	67	100	53	52	55	43	
G 417 G2-14 DO YOU USE OR REFER TO TRANSISTOR SUBSTITUTION INFORMATION	6	20	83	83	50	33	100	29	21	45	22	
G 418 G2-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE TRANSISTOR BASE CURRENT I_B IS NORMALLY SIGNIFICANTLY SMALLER THAN THE EMITTER CURRENT I_E (USUALLY I_B BEING 2 TO 8 PERCENT OF I_E)	8	40	33	33	0	0	0	13	12	15	13	
G 419 G2-16 DO YOU USE THE INFORMATION THAT THE EFFECT OF EMITTER BASE VOLTAGE ON BASE CURRENT IS THE CONTROLLING FACTOR FOR TRANSISTORS	8	40	58	58	25	33	0	27	21	40	13	
G 420 G2-17 DO YOU USE THE GENERAL RULE THAT LEAKAGE CURRENT (ICBO) IN A TRANSISTOR INCREASES AS TEMPERATURE INCREASES	2	40	33	33	25	33	0	8	7	10	9	
G 421 G2-18 DO YOU USE OR REFER TO TRANSISTOR CHARACTERISTIC CURVES	0	40	50	50	0	0	0	8	7	10	9	
G 422 G2-19 DO YOU USE OR REFER TO BETA TRANSISTOR GAINS	9	40	17	17	0	0	0	8	10	5	13	
G 423 G2-20 DO YOU USE OR REFER TO ALPHA TRANSISTOR GAINS	2	40	8	8	0	0	0	8	10	5	13	
G 424 G2-21 DO YOU USE OR REFER TO GAMMA TRANSISTOR GAINS	2	40	8	8	0	0	0	6	7	5	9	
G 425 G2-22 DO YOU CALCULATE BETA TRANSISTOR GAINS	0	40	17	17	0	0	0	3	2	5	4	
G 426 G2-23 DO YOU CALCULATE ALPHA TRANSISTOR GAINS	0	40	8	8	0	0	0	3	2	5	4	
G 427 G2-24 DO YOU CALCULATE GAMMA TRANSISTOR GAINS	0	40	8	8	0	0	0	3	2	5	4	
G 428 G3-01 DO YOU WORK WITH TRANSISTOR AMPLIFIERS IN YOUR PRESENT JOB	25	80	92	92	25	0	100	31	31	30	22	
G 429 G3-02 DO YOU INSPECT TRANSISTOR AMPLIFIERS	13	60	92	92	25	0	100	24	19	35	13	
G 430 G3-03 DO YOU ALIGN OR ADJUST TRANSISTOR AMPLIFIERS	23	40	83	83	25	0	100	23	17	35	13	TRANSISTOR AMPLIFIERS
G 431 G3-04 DO YOU TROUBLESHOOT TO THE AMPLIFIER CIRCUIT LEVEL	21	80	92	92	25	0	100	27	24	35	17	
G 432 G3-05 DO YOU TROUBLESHOOT TO AMPLIFIER COMPONENTS	11	40	92	92	25	0	100	19	12	35	4	
G 433 G3-06 DO YOU REMOVE OR REPLACE THE COMPLETE AMPLIFIER	19	20	92	92	25	0	100	24	19	35	17	
G 434 G3-07 DO YOU REMOVE OR REPLACE AMPLIFIER COMPONENTS	9	0	92	92	25	0	100	18	10	35	0	
G 435 G3-08 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A CHANGE IN BASE CURRENT	8	40	58	58	0	0	0	15	12	20	4	
G 436 G3-09 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT	4	20	92	92	0	0	0	10	10	10	4	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075
G	437	G3-10 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A CHANGE IN BASE CURRENT	6	20	58	58	0	0	0	10	12	25	9
G	438	G3-11 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT	9	20	42	42	0	0	0	5	5	5	9
G	439	G3-12 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN BASE CURRENT WHICH RESULTS FROM AN INPUT SIGNAL	9	60	50	50	0	0	0	13	12	15	9
G	440	G3-13 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN BASE CURRENT WHICH RESULTS FROM A SPECIFIC INPUT SIGNAL	2	20	33	33	0	0	0	8	5	15	9
G	441	G3-14 DO YOU USE THE LOAD-LINE METHOD OF ANALYSIS IN YOUR CIRCUIT ANALYSIS (THIS METHOD REQUIRES YOU TO PLOT A LOAD-LINE ON A TRANSISTOR CHARACTERISTIC CURVE)	0	20	8	8	0	0	0	2	2	0	9
G	442	G3-15 DO YOU USE OR REFER TO THE OPERATING POINT Q (QUIESCENT POINT) FOR A TRANSISTOR	0	60	33	33	0	0	0	3	5	0	9
G	443	G3-16 DO YOU CALCULATE THE SPECIFIC QUIESCENT POINT FOR A PARTICULAR TRANSISTOR	0	40	25	25	0	0	0	3	5	0	9
G	444	G3-17 DO YOU MEASURE VOLTAGE GAIN USED IN THE COMMON EMITTER CONFIGURATION	13	60	83	83	25	0	100	15	7	30	9
G	445	G3-18 DO YOU MEASURE CURRENT GAIN USED IN THE COMMON EMITTER CONFIGURATION	9	60	50	50	0	0	0	13	7	25	9
G	446	G3-19 DO YOU MEASURE POWER GAIN USED IN THE COMMON EMITTER CONFIGURATION	11	80	50	50	0	0	0	8	2	20	9
G	447	G3-20 DO YOU CALCULATE THE VOLTAGE GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE-EMITTER VOLTAGE INTO THE CHANGE THE BASE COLLECTOR VOLTAGE TO DETERMINE THE VOLTAGE GAIN	0	40	25	25	0	0	0	6	2	15	9
G	448	G3-21 DO YOU CALCULATE THE CURRENT GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE CURRENT INTO THE CHANGE IN COLLECTOR CURRENT TO DETERMINE THE CURRENT GAIN	0	40	33	33	0	0	0	6	2	15	9
G	449	G3-22 DO YOU CALCULATE THE POWER GAIN FOR A SPECIFIC TRANSISTOR USING A FORMULA THAT IS, DO YOU MULTIPLY THE CURRENT GAIN TIMES THE VOLTAGE GAIN TO DETERMINE THE POWER GAIN	0	60	17	17	0	0	0	5	0	15	0
G	450	G3-23 DO YOU NEED TO KNOW THAT MORE COLLECTOR CURRENT IS GENERATED WITH LESS COLLECTOR VOLTAGE AS TEMPERATURE INCREASES (THIS AFFECTS THE STATIC OPERATING POINT [Q] OF THE TRANSISTOR)	0	20	33	33	0	0	0	5	5	5	0
G	451	G3-24 DO YOU COMPUTE THE STATIC OPERATING POINT [Q] OF A TRANSISTOR AT DIFFERENT TEMPERATURES	0	20	17	17	0	0	0	2	0	5	0
G	452	G3-25 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH EMITTER (SWAMPING) RESISTOR STABILIZATION	2	40	58	58	0	0	0	13	12	15	9
G	453	G3-26 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH SELF-BIAS STABILIZATION	2	40	50	50	0	0	0	15	12	20	9

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075
G 454	G3-27 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH THERMISTOR STABILIZATION	0	40	50	50	0	0	0	16	17	15	4
G 455	G3-28 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH FORWARD BIAS DIODE STABILIZATION	4	40	58	58	0	0	0	16	19	20	4
G 456	G3-29 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH REVERSE BIAS DIODE STABILIZATION	2	40	58	58	0	0	0	16	19	20	4
G 457	G3-30 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH DOUBLE DIODE STABILIZATION	2	20	42	42	0	0	0	13	12	15	4
G 458	G3-31 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM EMITTER (SWAMPING) RESISTOR STABILIZATION	9	40	67	67	25	0	100	16	19	20	9
G 459	G3-32 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM SELF-BIAS STABILIZATION	9	40	58	58	25	0	100	16	19	20	9
G 460	G3-33 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THERMISTOR STABILIZATION	8	40	42	42	0	0	0	15	19	15	9
G 461	G3-34 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM FORWARD BIAS DIODE STABILIZATION	9	40	58	58	0	0	0	19	17	25	9
G 462	G3-35 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM REVERSE BIAS DIODE STABILIZATION	8	40	58	58	0	0	0	19	17	25	9
G 463	G3-36 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM DOUBLE DIODE STABILIZATION	8	20	42	42	0	0	0	15	19	15	9
G 464	G3-37 DO YOU IDENTIFY AMPLITUDE DISTORTION FOR TRANSISTOR CIRCUITS	9	80	75	75	0	0	0	13	5	30	0
G 465	G3-38 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF AMPLITUDE DISTORTION	13	80	83	83	25	0	100	19	12	35	4
G 466	G3-39 DO YOU IDENTIFY FREQUENCY DISTORTION FOR TRANSISTOR CIRCUITS	13	60	75	75	25	0	100	15	7	30	4
G 467	G3-40 DO YOU IDENTIFY PHASE DISTORTION FOR TRANSISTOR CIRCUITS	11	60	75	75	0	0	0	13	10	20	9
G 468	G3-41 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF PHASE DISTORTION	11	80	75	75	0	0	0	10	5	20	4
G 469	G3-42 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF FREQUENCY DISTORTION	8	60	75	75	25	0	100	15	7	30	0
G 470	G3-43 DO YOU NEED TO KNOW THE DEGENERATIVE EFFECTS ON THE CIRCUIT CAUSED BY CHANGING EMITTER RESISTANCE FOR TRANSISTOR AMPLIFIERS IN THE COMMON COLLECTOR CONFIGURATION	2	40	33	33	0	0	0	6	7	5	4
G 471	G3-44 DO YOU DETERMINE THE CLASS OF OPERATION FOR AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	2	60	50	50	0	0	0	13	10	20	9
G 472	G3-45 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	15	20	58	58	25	0	100	16	12	25	4
G 473	G3-46 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	23	80	92	92	25	0	100	23	17	35	4
G 474	G3-47 DO YOU TROUBLESHOOT OR REPAIR COMPLEMENTARY SYMMETRY CIRCUITS	4	20	58	58	0	0	0	16	19	20	4
G 475	G3-48 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	11	40	50	50	0	0	0	18	19	25	4

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
G	476	G3-49 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	9	0	67	67	25	0	100	21	17	30	9	
H	477	H1-01 DO YOU USE OR REFER TO VARACTORS	4	40	58	58	0	0	0	11	10	15	4	
H	478	H1-02 DO YOU USE OR REFER TO TUNNEL DIODES	6	60	75	75	0	0	0	6	10	0	4	SOLID-STATE
H	479	H1-03 DO YOU USE OR REFER TO FIELD EFFECT TRANSISTORS (FET)	8	40	75	75	0	0	0	34	36	30	26	SPECIAL PURPOSE
H	480	H1-04 DO YOU USE OR REFER TO UNIJUNCTION TRANSISTORS	6	60	92	92	50	33	100	32	36	25	30	DEVICES
H	481	H1-05 DO YOU USE OR REFER TO ZENER DIODES	25	80	100	100	75	67	100	65	62	70	48	
H	482	H1-06 DO YOU USE OR REFER TO INTEGRATED CIRCUITS	30	100	100	100	75	67	100	61	60	65	48	
H	483	H2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH POWER SUPPLIES	66	80	92	92	100	100	100	82	81	85	83	
H	484	H2-02 DO YOU INSPECT POWER SUPPLIES	40	60	100	100	100	100	100	74	69	85	83	
H	485	H2-03 DO YOU CLEAN POWER SUPPLIES	11	20	100	100	100	100	100	42	38	50	30	
H	486	H2-04 DO YOU ALIGN OR ADJUST POWER SUPPLIES	32	80	100	100	100	100	100	74	69	85	83	
H	487	H2-05 DO YOU TROUBLESHOOT TO POWER SUPPLY CIRCUIT LEVEL	55	80	100	100	75	67	100	60	60	60	70	
H	488	H2-06 DO YOU TROUBLESHOOT TO POWER SUPPLY COMPONENTS	40	80	100	100	100	100	100	61	60	65	61	POWER SUPPLIES
H	489	H2-07 DO YOU REMOVE OR REPLACE COMPLETE POWER SUPPLIES	64	90	100	100	100	100	100	74	76	70	87	
H	490	H2-08 DO YOU REMOVE OR REPLACE POWER SUPPLY COMPONENTS	21	20	100	100	100	100	100	58	57	60	65	
H	491	H2-09 DO YOU WORK WITH HALF-WAVE RECTIFIERS	19	80	100	100	50	33	100	55	62	40	52	
H	492	H2-10 DO YOU WORK WITH FULL-WAVE RECTIFIERS OTHER THAN BRIDGE RECTIFIERS	21	80	100	100	50	33	100	56	64	40	57	
H	493	H2-11 DO YOU WORK WITH BRIDGE RECTIFIERS	19	80	100	100	75	67	100	56	62	45	65	
H	494	H2-12 DO YOU WORK WITH THREE-PHASE RECTIFIERS	23	60	92	92	50	33	100	55	60	45	61	
H	495	H2-13 DO YOU USE OR REFER TO INPUT VOLTAGE	40	80	100	100	75	67	100	66	67	65	61	
H	496	H2-14 DO YOU USE OR REFER TO INPUT FREQUENCY	28	80	100	100	75	67	100	53	55	50	48	
H	497	H2-15 DO YOU USE OR REFER TO PEAK OUTPUT VOLTAGE	40	80	92	92	75	67	100	52	57	40	43	
H	498	H2-16 DO YOU USE OR REFER TO AVERAGE OUTPUT VOLTAGE	34	80	83	83	75	67	100	60	64	50	61	
H	499	H2-17 DO YOU USE OR REFER TO RIPPLE AMPLITUDE	25	60	92	92	75	67	100	56	57	55	48	
H	500	H2-18 DO YOU USE OR REFER TO RIPPLE FREQUENCY	21	60	100	100	50	33	100	40	40	40	35	
H	501	H2-19 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE	17	60	67	67	25	33	0	26	31	15	26	
H	502	H2-20 DO YOU USE OR REFER TO SHAPE OF OUTPUT WAVEFORMS	36	80	100	100	75	67	100	56	60	50	48	
H	503	H2-21 DO YOU USE OR REFER TO EFFECTIVE OUTPUT VOLTAGE	28	60	92	92	25	33	0	48	48	50	39	
H	504	H2-22 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE FILTERS	21	60	92	92	75	67	100	47	48	45	43	
H	505	H2-23 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE FILTERS	21	60	83	83	75	67	100	45	48	40	43	
H	506	H2-24 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE INPUT L-TYPE FILTERS	19	40	58	58	75	67	100	39	40	35	30	
H	507	H2-25 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE INPUT L-TYPE FILTERS	19	40	67	67	50	33	100	39	40	35	30	
H	508	H2-26 DO YOU WORK WITH CIRCUITS WHICH EMPLOY LC PI-TYPE FILTERS	9	40	50	50	25	0	100	34	38	25	26	
H	509	H2-27 DO YOU WORK WITH CIRCUITS WHICH EMPLOY RC PI-TYPE FILTERS	9	40	50	50	25	0	100	35	38	30	26	
H	510	H2-28 DO YOU WORK WITH CIRCUITS WHICH EMPLOY DON'T REMEMBER WHICH TYPE OF FILTER	25	20	58	58	25	33	0	35	36	35	43	
H	511	H2-29 DO YOU HAVE THE OPTION OF REPLACING ONE TYPE OF FILTER WITH A DIFFERENT TYPE FILTER	6	20	33	33	0	0	0	2	2	0	0	
H	512	H3-01 DO YOU WORK WITH OSCILLATORS IN YOUR PRESENT JOB	28	80	83	83	50	33	100	32	36	25	22	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
H	513	H3-02 DO YOU INSPECT OSCILLATORS	15	60	92	92	50	33	100	24	24	25	17	
H	514	H3-03 DO YOU ALIGN OR ADJUST OSCILLATORS	26	80	67	67	50	33	100	26	31	15	17	
H	515	H3-04 DO YOU REMOVE OR REPLACE COMPLETE OSCILLATORS	28	20	92	92	50	33	100	26	26	25	13	
H	516	H3-05 DO YOU REMOVE OR REPLACE OSCILLATOR COMPONENTS	9	0	75	75	25	0	100	10	10	10	4	OSCILLATORS
H	517	H3-06 DO YOU TROUBLESHOOT TO OSCILLATOR CIRCUIT LEVEL	30	80	92	92	50	33	100	21	21	20	13	
H	518	H3-07 DO YOU TROUBLESHOOT TO OSCILLATOR COMPONENTS	19	40	75	75	25	0	100	10	10	10	4	
H	519	H3-08 DO YOU USE OR REFER TO FEEDBACK	25	80	75	75	25	0	100	19	29	10	13	
H	520	H3-09 DO YOU USE OR REFER TO FREQUENCY DETERMINING DEVICES (FDD)	15	60	83	83	0	0	0	15	19	5	9	
H	521	H3-10 DO YOU USE OR REFER TO AMPLITUDE STABILITY	23	60	67	67	0	0	0	10	10	10	9	
H	522	H3-11 DO YOU USE OR REFER TO FREQUENCY STABILITY	25	60	83	83	0	0	0	16	19	20	9	
H	523	H3-12 DO YOU USE OR REFER TO DAMPING	16	60	58	58	0	0	0	10	12	5	9	
H	524	H3-13 DO YOU USE OR REFER TO REGENERATIVE FEEDBACK	13	40	83	83	25	0	100	16	29	5	13	
H	525	H3-14 DO YOU USE OR REFER TO PIEZOELECTRIC EFFECT	4	40	50	50	0	0	0	11	14	5	9	
H	526	H3-15 DO YOU USE OR REFER TO CRITICAL DAMPING	9	40	25	25	0	0	0	6	7	5	4	
H	527	H3-16 DO YOU USE OR REFER TO UNDER DAMPING	4	40	42	42	0	0	0	6	7	5	4	
H	528	H3-17 DO YOU USE OR REFER TO OVER DAMPING	4	40	33	33	0	0	0	6	7	5	4	
H	529	H3-18 DO YOU WORK WITH OSCILLATORS WHICH USE LC TANK CIRCUITS AS FDD	19	40	83	83	25	0	100	21	26	10	17	
H	530	H3-19 DO YOU WORK WITH OSCILLATORS WHICH USE RC NETWORKS AS FDD	21	60	83	83	25	0	100	23	29	10	17	
H	531	H3-20 DO YOU WORK WITH OSCILLATORS WHICH USE CRYSTALS AS FDD	25	60	83	83	25	0	100	26	31	15	22	
H	532	H3-21 DO YOU WORK WITH OSCILLATORS WHICH USE DON'T REMEMBER WHICH TYPE OF FDD	6	20	42	42	25	33	0	10	10	10	17	
H	533	H3-22 DO YOU WORK WITH SERIES HARTLEY SINUSOIDAL OSCILLATORS	6	40	50	50	25	0	100	11	14	5	9	
H	534	H3-23 DO YOU WORK WITH SHUNT HARTLEY SINUSOIDAL OSCILLATORS	8	40	50	50	25	0	100	11	14	5	9	
H	535	H3-24 DO YOU WORK WITH COLPITTS SINUSOIDAL OSCILLATORS	6	40	67	67	25	0	100	11	14	5	9	
H	536	H3-25 DO YOU WORK WITH CLAPP SINUSOIDAL OSCILLATORS	6	0	33	33	25	0	100	5	5	5	0	
H	537	H3-26 DO YOU WORK WITH BUTLER SINUSOIDAL OSCILLATORS	2	0	17	17	25	0	100	5	5	5	0	
H	538	H3-27 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF OSCILLATORS	17	20	50	50	50	33	100	15	17	10	9	
I	539	I1-01 DO YOU WORK WITH MULTIVIBRATORS IN YOUR PRESENT JOB	26	80	83	83	25	0	100	45	43	50	30	
I	540	I1-02 DO YOU INSPECT WAVE GENERATING OR SHAPING CIRCUITS	19	60	83	83	25	0	100	29	19	35	13	
I	541	I1-03 DO YOU ALIGN OR ADJUST WAVE GENERATING OR SHAPING CIRCUITS	26	80	75	75	25	0	100	31	26	40	17	
I	542	I1-04 DO YOU CALIBRATE WAVE GENERATING OR SHAPING CIRCUITS	19	60	75	75	25	0	100	15	17	10	13	MULTIVIBRATORS
I	543	I1-05 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUITS	30	80	83	83	25	0	100	31	21	50	13	
I	544	I1-06 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUIT COMPONENTS	17	60	83	83	25	0	100	29	19	50	13	
I	545	I1-07 DO YOU REMOVE OR REPLACE COMPLETE WAVE GENERATING OR SHAPING CIRCUITS	21	20	83	83	25	0	100	29	29	40	13	
I	546	I1-08 DO YOU REMOVE OR REPLACE WAVE GENERATING OR SHAPING COMPONENTS	9	0	75	75	0	0	0	27	17	50	4	
I	547	I1-09 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN LC TANK CIRCUITS	17	40	83	83	25	0	100	26	21	35	13	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 076	
I 548	11-10 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN RC NETWORKS	21	60	75	75	25	0	100	23	21	25	13	
I 549	11-11 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN CRYSTALS	19	60	75	75	25	0	100	29	21	30	17	
I 550	11-12 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN DON'T REMEMBER WHICH TYPE OF FDD	19	20	33	33	25	0	100	11	10	15	9	
I 551	11-13 DO YOU WORK WITH ASTABLE MULTIVIBRATORS	6	80	67	67	25	0	100	26	26	25	13	
I 552	11-14 DO YOU WORK WITH MONOSTABLE MULTIVIBRATORS	6	80	75	75	25	0	100	27	29	25	13	
I 553	11-15 DO YOU WORK WITH BISTABLE MULTIVIBRATORS	6	80	67	67	25	0	100	31	31	30	17	
I 554	11-16 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE MULTIVIBRATORS	25	0	17	17	25	0	100	16	19	20	13	
I 555	12-01 DO YOU WORK WITH LIMITERS OR CLAMPERS IN YOUR PRESENT JOB	11	60	83	83	25	0	100	34	40	20	39	
I 556	12-02 DO YOU WORK WITH SERIES DIODE LIMITERS	8	60	75	75	0	0	0	29	26	20	17	LIMITERS AND CLAMPERS
I 557	12-03 DO YOU WORK WITH SHUNT DIODE LIMITERS	6	60	83	83	0	0	0	23	29	20	13	
I 558	12-04 DO YOU WORK WITH LIMITERS WITH BIAS	6	60	50	50	0	0	0	19	21	15	13	
I 559	12-05 DO YOU WORK WITH ZENER DIODE LIMITERS	6	60	83	83	0	0	0	27	31	20	26	
I 560	12-06 DO YOU WORK WITH TRANSISTOR LIMITERS	6	60	67	67	0	0	0	21	26	10	17	
I 561	12-07 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF LIMITERS	11	0	33	33	25	0	100	11	12	10	13	
I 562	12-08 DO YOU WORK WITH BASIC DIODE CLAMPING CIRCUITS	4	60	75	75	0	0	0	19	19	20	9	
I 563	12-09 DO YOU WORK WITH DIODE CLAMPING CIRCUITS WITH BIAS	4	60	58	58	0	0	0	15	17	10	9	
I 564	12-10 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF CLAMPING CIRCUIT	13	0	33	33	25	0	100	13	19	10	22	
I 565	13-01 IN YOUR PRESENT JOB, DO YOU WORK ON EQUIPMENT WHICH CONTAINS ELECTRON TUBES	53	100	92	92	75	67	100	73	71	75	74	
I 566	13-02 DO YOU CHECK ELECTRON TUBES TO SEE IF THEY ARE GOOD	40	60	100	100	75	67	100	40	36	50	30	
I 567	13-03 DO YOU USE TUBE TESTERS TO CHECK ELECTRON TUBES	38	60	100	100	50	33	100	10	7	15	9	
I 568	13-04 DO YOU USE MULTIMETERS TO CHECK ELECTRON TUBES	19	80	67	67	50	33	100	19	19	20	9	
I 569	13-05 DO YOU USE SCOPES TO CHECK ELECTRON TUBES	21	80	100	100	50	67	0	27	21	40	13	ELECTRON TUBES
I 570	13-06 DO YOU USE SUBSTITUTION TO CHECK ELECTRON TUBES	28	40	100	100	100	100	100	47	43	55	43	
I 571	13-07 DO YOU USE OR REFER TO CUTOFF	19	100	67	67	25	33	0	16	19	10	9	
I 572	13-08 DO YOU USE OR REFER TO PEAK INVERSE VOLTAGE RATING	11	20	25	25	0	0	0	8	10	5	9	
I 573	13-09 DO YOU USE OR REFER TO PEAK CURRENT RATING	13	40	25	25	0	0	0	10	12	5	9	
I 574	13-10 DO YOU USE OR REFER TO TRANSIT TIME	8	40	25	25	25	33	0	8	7	10	9	
I 575	13-11 DO YOU USE OR REFER TO PLATE DISSIPATION RATING	11	20	50	50	25	33	0	6	7	10	9	
I 576	13-12 DO YOU USE OR REFER TO SATURATION	19	100	75	75	50	67	0	23	21	25	9	
I 577	13-13 DO YOU USE OR REFER TO DC PLATE RESISTANCE	13	60	75	75	50	67	0	10	7	15	9	
I 578	13-14 DO YOU COMPUTE ACTUAL VALUES OF THE DC PLATE RESISTANCE FOR ELECTRON TUBES	0	20	33	33	0	0	0	2	2	0	9	
I 579	13-15 DO YOU USE OR REFER TO PLATE VOLTAGE	25	100	100	100	75	67	100	42	45	35	35	
I 580	13-16 DO YOU USE OR REFER TO PLATE CURRENT	26	100	100	100	50	67	0	31	31	30	22	
I 581	13-17 DO YOU USE OR REFER TO GRID VOLTAGE	26	100	100	100	75	67	100	42	45	35	35	
I 582	13-18 DO YOU USE OR REFER TO GRID CURRENT	26	100	100	100	50	67	0	29	29	30	17	
I 583	13-19 DO YOU USE OR REFER TO CATHODE VOLTAGE	25	100	100	100	75	67	100	44	45	40	35	
I 584	13-20 DO YOU USE OR REFER TO CATHODE CURRENT	25	100	100	100	50	67	0	29	29	30	17	
I 585	13-21 DO YOU USE OR REFER TO THE TRIODE AMPLIFICATION FACTOR (THE AMPLIFICATION FACTOR FOR TRIODES IS DEFINED AS THE RATIO OF CHANGE IN PLATE VOLTAGE TO A CHANGE IN GRID VOLTAGE)	4	80	33	33	0	0	0	6	7	5	4	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
I	586	I3-22 DO YOU CALCULATE ACTUAL VALUES OF TRIODE AMPLIFICATION FACTORS	0	60	17	17	0	0	0	2	2	0	4	
I	587	I3-23 DO YOU USE OR REFER TO MULTIGRID (TETRODE, PENTODE, ETC) AMPLIFICATION FACTORS	2	80	33	33	0	0	0	8	10	5	9	
I	588	I3-24 DO YOU USE OR REFER TO ELECTRON TUBE TRANSCONDUCTANCE (G, WHICH IS MEASURED IN MHOS)	0	40	33	33	0	0	0	3	5	0	4	
I	589	I3-25 DO YOU CALCULATE ACTUAL VALUES OF ELECTRON TUBE TRANSCONDUCTANCES	2	20	8	8	0	0	0	2	2	0	4	
I	590	I3-26 DO YOU USE OR REFER TO THE ELECTRON TUBE PARAMETER CALLED AC PLATE RESISTANCE	2	40	8	8	0	0	0	2	2	0	4	
I	591	I3-27 DO YOU CALCULATE ACTUAL VALUES OF AC PLATE RESISTANCE	0	20	17	17	0	0	0	3	5	0	4	
I	592	I3-28 DO YOU USE OR REFER TO ELECTRON TUBE INTERELECTRODE CAPACITANCE	6	60	33	33	0	0	0	3	5	0	4	
I	593	I3-29 DO YOU USE OR REFER TO CHARACTERISTIC CURVES IN YOUR WORK WITH ELECTRON TUBES	2	80	25	25	0	0	0	2	2	0	4	
I	594	I3-30 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE VOLTAGE FOR A SPECIFIED BIAS	4	40	25	25	0	0	0	8	5	15	4	
I	595	I3-31 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE CURRENT FOR A SPECIFIED BIAS	4	40	25	25	0	0	0	6	5	10	4	
I	596	I3-32 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR CUTOFF	6	80	33	33	25	33	0	8	5	15	4	
I	597	I3-33 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR SATURATION	4	80	33	33	25	33	0	8	5	15	4	
I	598	I3-34 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER GAIN	28	100	92	92	50	67	0	21	29	15	17	
I	599	I3-35 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER EFFICIENCY	13	40	67	67	0	0	0	11	12	10	13	
I	600	I3-36 DO YOU USE TEST TUBE CHECKERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	23	40	92	92	25	0	100	3	0	10	0	
I	601	I3-37 DO YOU USE MULTIMETERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	23	80	67	67	25	0	100	13	19	10	4	
I	602	I3-38 DO YOU USE OSCILLOSCOPES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	30	100	83	83	25	33	0	29	26	35	22	
I	603	I3-39 DO YOU USE CHARACTERISTIC CURVES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	2	60	42	42	0	0	0	3	2	5	0	
I	604	I3-40 DO YOU CALCULATE ANY ELECTRON TUBE CAPACITANCES SUCH AS INPUT CAPACITANCE	0	0	33	33	0	0	0	2	2	0	4	
I	605	I3-41 DO YOU USE OR REFER TO TUBE SOCKET NOTATION	13	20	100	100	75	67	100	40	38	45	39	
I	606	I3-42 DO YOU USE OR REFER TO PIN NUMBERING SYSTEMS	23	40	100	100	100	100	100	55	55	55	43	
I	607	I3-43 DO YOU USE OR REFER TO THE TYPE OF MATERIAL OR THE OPERATING TEMPERATURE OF THE EMITTING SURFACE IN THE ELECTRON TUBES YOU WORK ON	0	20	25	25	0	0	0	5	7	0	4	
I	608	I3-44 DO YOU USE OR REFER TO TUBE SUBSTITUTION MATERIAL SUCH AS MANUALS OR CHARTS	8	20	83	83	25	0	100	18	17	20	17	
J	609	J1-01 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRESENT JOB	32	80	92	92	75	67	100	42	43	40	35	
J	610	J1-02 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	8	40	42	42	25	33	0	8	7	10	0	ELECTRON TUBE AMPLIFIERS AND CIRCUITS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
J 611	J1-03 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	17	20	67	67	25	0	100	16	19	10	4	
J 612	J1-04 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	25	80	83	83	25	0	100	21	21	20	4	
J 613	J1-05 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	9	20	50	50	0	0	0	16	14	20	0	
J 614	J1-06 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	9	40	58	58	50	33	100	19	17	25	4	
J 615	J1-07 DO YOU TROUBLESHOOT OR REPAIR DON'T KNOW WHICH TYPE OF AMPLIFIER	13	20	25	25	25	33	0	13	14	10	17	
J 616	J2-01 DO YOU WORK WITH GAS TUBES (HOT CATHODE OR COLD CATHODE)	32	80	92	92	25	33	0	37	38	35	30	
J 617	J2-02 DO YOU WORK WITH CATHODE-RAY TUBES	49	80	92	92	75	67	100	60	57	65	48	
J 618	J2-03 DO YOU USE OR REFER TO THE CHARACTERISTICS OF BEAM POWER TUBES	9	40	25	25	0	0	0	10	12	5	9	
J 619	J2-04 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH BEAM POWER TUBES ARE USED	13	20	25	25	0	0	0	16	17	15	13	SPECIAL PURPOSE ELECTRON TUBES
J 620	J2-05 DO YOU USE OR REFER TO THE CHARACTERISTICS OF THYRATRONS	32	80	83	83	0	0	0	39	43	30	43	
J 621	J2-06 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH THYRATRONS ARE USED	49	40	92	92	0	0	0	53	52	55	52	
J 622	J2-07 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTRON GUNS OF CATHODE-RAY TUBES (CRT)	34	100	100	100	75	67	100	52	55	45	52	
J 623	J2-08 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROMAGNETIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)	28	80	83	83	25	0	100	42	40	45	43	
J 624	J2-09 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROSTATIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)	19	80	42	42	25	0	100	35	38	30	39	
J 625	J2-10 DO YOU USE OR REFER TO PHOSPHOR SCREENS	19	100	67	67	50	67	0	50	52	45	52	
J 626	J2-11 DO YOU USE OR REFER TO AQUADAG COATINGS	11	80	33	33	25	33	0	16	19	10	22	
J 627	J2-12 DO YOU USE OR REFER TO ELECTRON OPTICS	11	20	58	58	0	0	0	21	26	10	22	
J 628	J2-13 DO YOU USE OR REFER TO PERSISTENCE	11	40	58	58	25	33	0	56	55	60	52	
J 629	J2-14 DO YOU USE OR REFER TO DECAY TIMES	11	60	58	58	0	0	0	27	29	25	22	
J 630	J2-15 DO YOU USE OR REFER TO FLUORESCENCE	11	60	33	33	0	0	0	27	26	30	17	
J 631	J2-16 DO YOU USE OR REFER TO PHOSPHORESCENCE	16	40	50	50	25	33	0	27	26	30	13	
J 632	J3-01 DO YOU WORK ON TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	43	80	100	100	75	67	100	76	74	80	74	
J 633	J3-02 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	25	60	100	100	25	0	100	29	31	25	26	HETERODYNING, MODULATION, AND DEMODULATION
J 634	J3-03 DO YOU PERFORM TASKS ON FREQUENCY MIXERS	28	40	100	100	50	33	100	47	48	45	43	
J 635	J3-04 DO YOU USE OR REFER TO THE HETERODYNING OF SIGNALS IN YOUR WORK WITH TRANSMIT OR RECEIVE SYSTEMS	11	40	42	42	25	0	100	26	33	10	30	
J 636	J3-05 DO YOU PERFORM TASKS ON REACTANCE MODULATORS	6	20	42	42	50	33	100	15	12	20	9	
J 637	J3-06 DO YOU PERFORM TASKS ON MODULATED OSCILLATORS	19	40	75	75	25	0	100	40	38	45	39	
K 638	K1-01 DO YOU WORK ON AM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	0	40	25	25	0	0	0	21	21	20	26	
K 639	K1-02 DO YOU INSPECT AM TRANSMIT OR RECEIVE SYSTEMS	0	40	33	33	0	0	0	18	17	20	22	AM SYSTEMS
K 640	K1-03 DO YOU CLEAN AM TRANSMIT OR RECEIVE SYSTEMS	0	20	33	33	0	0	0	10	7	15	9	
K 641	K1-04 DO YOU ALIGN OR ADJUST AM TRANSMIT OR RECEIVE SYSTEMS	0	20	33	33	0	0	0	18	17	20	22	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
K	642	K1-05 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE SYSTEMS	2	40	33	33	0	0	0	18	17	20	22	
K	643	K1-06 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE COMPONENTS	0	40	33	33	0	0	0	16	12	20	17	
K	644	K1-07 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE SYSTEMS	2	0	33	33	0	0	0	19	17	25	22	
K	645	K1-08 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE COMPONENTS	2	0	33	33	0	0	0	13	10	20	9	
K	646	K1-09 DO YOU PERFORM TASKS ON RF OSCILLATORS	4	40	25	25	0	0	0	10	10	10	13	
K	647	K1-10 DO YOU PERFORM TASKS ON RF AMPLIFIERS	6	40	25	25	0	0	0	10	10	10	13	
K	648	K1-11 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	2	40	33	33	0	0	0	2	2	0	4	
K	649	K1-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	2	40	33	33	0	0	0	6	7	5	9	
K	650	K1-13 DO YOU PERFORM TASKS ON LOCAL OSCILLATORS	4	40	25	25	0	0	0	11	12	10	17	
K	651	K1-14 DO YOU PERFORM TASKS ON IF AMPLIFIERS	6	40	33	33	0	0	0	10	10	10	13	
K	652	K1-15 DO YOU PERFORM TASKS ON DETECTORS	4	40	42	42	0	0	0	10	10	10	13	
K	653	K1-16 DO YOU PERFORM TASKS ON DON'T REMEMBER WHICH AM STAGE	0	0	8	8	0	0	0	0	0	0	0	
K	654	K1-17 DO YOU USE OR REFER TO AMPLITUDE STABILIZATION IN TRANSMITTERS	4	20	25	25	0	0	0	5	2	10	4	
K	655	K1-18 DO YOU USE OR REFER TO FREQUENCY STABILIZATION IN TRANSMITTERS	2	20	33	33	0	0	0	13	12	15	13	
K	656	K1-19 DO YOU USE OR REFER TO SENSITIVITY OF RECEIVERS	4	40	33	33	0	0	0	6	10	0	9	
K	657	K1-20 DO YOU USE OR REFER TO SELECTIVITY OF RECEIVERS	4	40	42	42	0	0	0	6	10	0	9	
K	658	K1-21 DO YOU USE OR REFER TO 2ND HARMONIC DISTORTION	0	40	17	17	0	0	0	0	0	0	0	
K	659	K1-22 DO YOU USE OR REFER TO BANDPASS DISTORTION	2	40	33	33	0	0	0	2	2	0	4	
K	660	K1-23 DO YOU USE OR REFER TO SQUARE LAW DISTORTION	0	20	8	8	0	0	0	0	0	0	0	
K	661	K1-24 DO YOU USE OR REFER TO CO-CHANNEL INTERFERENCE	2	40	8	8	0	0	0	0	0	0	0	
K	662	K1-25 DO YOU USE OR REFER TO IMAGE FREQUENCIES IN RECEIVERS	2	20	33	33	0	0	0	0	0	0	0	
K	663	K1-26 DO YOU USE OR REFER TO SIGNAL TO IMAGE RATIOS OR IMAGE REJECTION RATIOS	4	20	33	33	0	0	0	0	0	0	0	
K	664	K1-27 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM TRANSMITTER SCHEMATIC DIAGRAMS	2	0	33	33	0	0	0	15	14	15	13	
K	665	K1-28 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM RECEIVER SCHEMATIC DIAGRAMS	4	40	42	42	0	0	0	13	12	15	9	
K	666	K2-01 DO YOU WORK WITH FM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	13	0	25	25	50	67	0	21	19	25	17	
K	667	K2-02 DO YOU INSPECT FM TRANSMIT OR RECEIVE SYSTEMS	9	0	42	42	25	33	0	18	14	25	17	
K	668	K2-03 DO YOU CLEAN FM TRANSMIT OR RECEIVE SYSTEMS	2	0	42	42	25	33	0	6	2	15	0	
K	669	K2-04 DO YOU ALIGN FM TRANSMIT OR RECEIVE SYSTEMS	11	0	33	33	25	33	0	21	17	30	17	
K	670	K2-05 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS	13	0	33	33	25	33	0	21	17	30	17	FM SYSTEMS
K	671	K2-06 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE COMPONENTS	8	0	42	42	25	33	0	18	12	30	13	
K	672	K2-07 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS	11	0	33	33	25	33	0	19	17	25	17	
K	673	K2-08 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE COMPONENTS	6	0	33	33	25	33	0	16	10	30	9	
K	674	K2-09 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	8	0	33	33	25	33	0	5	7	0	13	
K	675	K2-10 DO YOU PERFORM TASKS ON FREQUENCY MULTIPLIERS	6	0	33	33	0	0	0	6	7	5	9	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
K 676	K2-11 DO YOU PERFORM TASKS ON DRIVERS (INTERMEDIATE AMPLIFIERS)	6	0	33	33	0	0	0	5	5	5	4	
K 677	K2-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	8	0	33	33	25	33	0	10	10	10	13	
K 678	K2-13 DO YOU PERFORM TASKS ON RF AMPLIFIERS	9	0	33	33	0	0	0	13	10	20	13	
K 679	K2-14 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	6	0	33	33	0	0	0	6	10	0	13	
K 680	K2-15 DO YOU PERFORM TASKS ON IF AMPLIFIERS	9	0	33	33	25	33	0	13	10	20	13	
K 681	K2-16 DO YOU PERFORM TASKS ON LIMITERS	6	0	25	25	25	33	0	10	10	10	13	
K 682	K2-17 DO YOU PERFORM TASKS ON FREQUENCY DISCRIMINATORS	6	0	42	42	25	33	0	10	10	10	13	
K 683	K2-18 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM TRANSMITTERS	9	0	33	33	25	33	0	21	17	30	17	
K 684	K2-19 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM RECEIVERS	9	0	33	33	25	33	0	21	17	30	17	
K 685	K3-01 DO YOU CONVERT DECIMAL (BASE 10) NUMBERS TO OCTAL (BASE 8) NUMBERS	66	100	100	100	0	0	0	3	5	0	4	
K 686	K3-02 DO YOU CONVERT DECIMAL NUMBERS TO BINARY (BASE 2) NUMBERS	58	100	100	100	50	33	100	6	7	5	4	NUMBERING SYSTEMS
K 687	K3-03 DO YOU CONVERT OCTAL NUMBERS TO DECIMAL NUMBERS	57	100	100	100	0	0	0	2	2	0	0	
K 688	K3-04 DO YOU CONVERT OCTAL NUMBERS TO BINARY NUMBERS	51	100	100	100	0	0	0	2	2	0	0	
K 689	K3-05 DO YOU CONVERT BINARY NUMBERS TO DECIMAL NUMBERS	58	100	100	100	50	33	100	5	5	5	0	
K 690	K3-06 DO YOU CONVERT BINARY NUMBERS TO OCTAL NUMBERS	45	100	100	100	25	33	0	2	2	0	0	
K 691	K3-07 DO YOU ADD BINARY NUMBERS TO GET A SUM	38	80	83	83	25	0	100	5	5	5	0	
K 692	K3-08 DO YOU SUBTRACT BINARY NUMBERS USING THE END-AROUND-CARRY METHOD	15	60	50	50	25	0	100	3	5	0	0	
K 693	K3-09 DO YOU SUBTRACT BINARY NUMBERS USING THE DIRECT SUBTRACTION METHOD	21	60	83	83	25	0	100	3	5	0	0	
K 694	K3-10 DO YOU ADD OCTAL NUMBERS TO GET A SUM	36	60	67	67	0	0	0	2	2	0	0	
L 695	L1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO LOGIC FUNCTIONS	8	60	92	92	25	0	100	13	14	10	13	
L 696	L1-02 DO YOU CONSTRUCT TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	6	60	58	58	0	0	0	5	7	0	0	
L 697	L1-03 DO YOU CONSTRUCT TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	6	60	58	58	0	0	0	5	7	0	0	LOGIC FUNCTIONS
L 698	L1-04 DO YOU CONSTRUCT TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	6	60	58	58	0	0	0	5	7	0	0	
L 699	L1-05 DO YOU CONSTRUCT TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS OR GATES	6	60	58	58	0	0	0	5	7	0	0	
L 700	L1-06 DO YOU USE OR REFER TO TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	8	60	83	83	25	0	100	10	12	5	9	
L 701	K1-07 DO YOU USE OR REFER TO TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	8	60	83	83	25	0	100	10	12	5	9	
L 702	K1-08 DO YOU USE OR REFER TO TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	8	60	83	83	25	0	100	10	12	5	9	
L 703	L1-09 DO YOU USE OR REFER TO TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS	8	60	75	75	25	0	100	8	12	0	9	
L 704	L1-10 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR AND GATES	9	60	92	92	25	0	100	11	12	10	9	
L 705	L1-11 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR OR GATES	9	60	92	92	25	0	100	11	12	10	9	
L 706	L1-12 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR NAND OR NOR GATES	9	60	92	92	25	0	100	11	12	10	9	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
L 707	L1-13 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR EXCLUSIVE OR GATES	9	60	83	83	25	0	100	10	12	5	9	
L 708	L2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO BOOLEAN EQUATIONS, LOGIC DIAGRAMS, OR LOGIC CIRCUITS	0	60	67	67	25	0	100	10	10	10	9	
L 709	L2-02 DO YOU DRAW LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUITS	0	60	17	17	0	0	0	0	0	0	0	
L 710	L2-03 DO YOU CONSTRUCT TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	0	60	25	25	0	0	0	0	0	0	0	BOOLEAN EQUATIONS
L 711	L2-04 DO YOU DRAW LOGIC DIAGRAMS FROM GIVEN BOOLEAN EQUATIONS	0	60	17	17	0	0	0	0	0	0	0	
L 712	L2-05 DO YOU MEASURE INPUTS OR OUTPUTS OF LOGIC GATES	2	40	67	67	0	0	0	2	0	5	0	
L 713	L2-06 DO YOU DEVELOP OR ANALYZE BOOLEAN EQUATIONS IN THE PROCESS OF TROUBLESHOOTING DIGITAL CIRCUITS	0	40	67	67	0	0	0	0	0	0	0	
L 714	L2-07 DO YOU ANALYZE LOGIC CIRCUITS BY USING BOOLEAN ALGEBRA	2	40	58	58	25	0	100	0	0	0	0	
L 715	L2-08 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUIT GATES	2	60	33	33	0	0	0	2	0	5	0	
L 716	L2-09 DO YOU USE OR REFER TO TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	2	60	25	25	0	0	0	0	0	0	0	
L 717	L2-10 DO YOU USE OR REFER TO LOGIC DIAGRAMS CONSISTING OF MORE THAN ONE GATE	2	60	58	58	0	0	0	2	0	5	0	
L 718	L2-11 DO YOU COMPUTE SUM AND CARRY EXPRESSIONS FOR SERIAL HALF OR FULL ADDER LOGIC DIAGRAMS	2	60	33	33	0	0	0	2	0	5	0	
L 719	L2-12 DO YOU TRACE DATA FLOW THROUGH PARALLEL FULL ADDER LOGIC DIAGRAMS	0	60	50	50	0	0	0	2	0	5	0	
L 720	L2-13 DO YOU WORK WITH ASTABLE (FREE RUNNING) MULTIVIBRATORS	4	60	67	67	25	0	100	6	7	5	0	
L 721	L2-14 DO YOU WORK WITH BISTABLE (FLIP-FLOP) MULTIVIBRATORS	4	60	67	67	25	0	100	6	7	5	0	
L 722	L2-15 DO YOU WORK WITH MONOSTABLE (ONE-SHOT) MULTIVIBRATORS	4	60	67	67	25	0	100	6	7	5	0	
L 723	L2-16 DO YOU USE OR REFER TO FLIP-FLOP MULTIVIBRATOR SYMBOLS	4	60	67	67	25	0	100	5	5	5	0	
L 724	L2-17 DO YOU USE OR REFER TO SINGLE-SHOT MULTIVIBRATOR SYMBOLS	6	60	67	67	25	0	100	5	5	5	0	
L 725	L2-18 DO YOU USE OR REFER TO FLIP-FLOP CIRCUIT DIAGRAMS	4	60	67	67	25	0	100	6	7	5	0	
L 726	L2-19 DO YOU USE OR REFER TO FLIP-FLOP TRUTH TABLES	4	40	67	67	25	0	100	3	5	0	0	
L 727	L2-20 DO YOU USE OR REFER TO COMPLEMENTED FLIP-FLOP LOGIC SYMBOLS	2	40	58	58	25	0	100	5	5	5	0	
L 728	L2-21 DO YOU USE OR REFER TO COMPLEMENTING FLIP-FLOP LOGIC SYMBOLS	2	40	58	58	25	0	100	5	5	5	0	
L 729	L2-22 DO YOU MEASURE OUTPUT WAVESHAPES OF LOGIC CIRCUITS	4	20	67	67	25	0	100	3	2	5	0	
L 730	L2-23 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTED FLIP-FLOP SCHEMATIC DIAGRAMS	2	40	58	58	0	0	0	6	7	5	0	
L 731	L2-24 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTING FLIP-FLOP SCHEMATIC DIAGRAMS	2	40	58	58	0	0	0	6	7	5	0	
L 732	L2-25 DO YOU CONSTRUCT TRUTH TABLES FOR J-K FLIP-FLOP LOGIC SYMBOLS	2	20	50	50	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
L 733	L3-01 DO YOU WORK WITH DIGITAL COUNTERS IN YOUR PRESENT JOB	6	60	67	67	50	33	100	8	10	5	9	
L 734	L3-02 DO YOU USE OR REFER TO UP-COUNTERS	8	60	50	50	50	33	100	6	7	5	9	
L 735	L3-03 DO YOU USE OR REFER TO DOWN-COUNTERS	6	60	58	58	25	0	100	6	7	5	9	
L 736	L3-04 DO YOU USE OR REFER TO SERIAL COUNTERS	4	60	50	50	0	0	0	5	5	5	9	
L 737	L3-05 DO YOU USE OR REFER TO PARALLEL COUNTERS	4	60	50	50	0	0	0	5	5	5	9	COUNTERS
L 738	L3-06 DO YOU USE OR REFER TO RING COUNTERS	2	20	58	58	25	0	100	5	7	0	9	
L 739	L3-07 DO YOU USE OR REFER TO DECADE COUNTERS	2	20	50	50	25	0	100	5	7	0	9	
L 740	L3-08 DO YOU USE OR REFER TO COUNT DETECT CIRCUITS	4	40	42	42	25	0	100	3	2	5	9	
L 741	L3-09 DO YOU USE OR REFER TO DOWN CLOCKS	4	60	58	58	0	0	0	0	0	0	0	
L 742	L3-10 DO YOU USE OR REFER TO UP CLOCKS	4	60	58	58	25	33	0	0	0	0	0	
L 743	L3-11 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	8	40	50	50	0	0	0	3	2	5	9	
L 744	L3-12 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	6	40	42	42	0	0	0	2	2	0	9	
L 745	L3-13 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF DECADE COUNTERS	4	20	58	58	25	0	100	2	2	0	9	
L 746	L3-14 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF RING COUNTERS	2	20	50	50	25	0	100	2	2	0	9	
L 747	L3-15 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER	2	40	50	50	0	0	0	2	2	0	9	
L 748	L3-16 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	4	60	75	75	25	0	100	0	0	0	0	
L 749	L3-17 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF COUNTERS	4	60	75	75	0	0	0	0	0	0	0	
L 750	L3-18 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	6	40	33	33	0	0	0	2	2	0	9	
L 751	L3-19 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	2	40	25	25	0	0	0	2	2	0	9	
L 752	L3-20 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTERS	2	40	25	25	0	0	0	2	2	0	9	
L 753	L3-21 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR OTHER TYPES OF COUNTERS	2	60	33	33	0	0	0	0	0	0	0	
L 754	L3-22 DO YOU CONSTRUCT TRUTH TABLES FROM LOGIC DIAGRAMS OF DECADE COUNTERS	0	40	8	8	0	0	0	0	0	0	0	
L 755	L3-23 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP IN RING COUNTERS FOR SPECIFIC INPUT PULSES	2	20	25	25	25	0	100	2	2	0	9	
L 756	L3-24 DO YOU DETERMINE THE APPROPRIATE AND GATE NECESSARY IN COUNT DETECT CIRCUITS TO INDICATE A REQUIRED COUNT	2	60	25	25	0	0	0	2	2	0	9	
M 757	M1-01 DO YOU WORK WITH SAWTOOTH WAVE GENERATORS	58	80	83	83	75	67	100	52	60	35	57	
M 758	M1-02 DO YOU WORK WITH TRAPEZOIDAL WAVE GENERATORS	15	90	33	33	25	0	100	32	38	20	35	
M 759	M1-03 DO YOU WORK WITH PULSED OSCILLATORS WITH REGENERATIVE FEEDBACK	26	90	67	67	50	33	100	35	36	35	35	TIMING CIRCUITS
M 760	M1-04 DO YOU WORK WITH PULSED OSCILLATORS WITHOUT REGENERATIVE FEEDBACK	21	90	58	58	25	0	100	32	36	25	35	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
M 761	M1-05 DO YOU WORK WITH BLOCKING OSCILLATORS	58	80	92	92	75	67	100	53	55	50	52	
M 762	M1-06 DO YOU USE OR REFER TO RISE TIME	26	60	75	75	75	67	100	32	33	30	22	
M 763	M1-07 DO YOU USE OR REFER TO FALL OR FLYBACK TIME	23	60	67	67	50	33	100	31	33	25	26	
M 764	M1-08 DO YOU USE OR REFER TO SWEEP TIME	62	100	92	92	75	67	100	42	48	30	43	
M 765	M1-09 DO YOU USE OR REFER TO ELECTRICAL LENGTH OF SAWTOOTH WAVEFORMS	53	100	92	92	50	67	0	40	45	30	39	
M 766	M1-10 DO YOU USE OR REFER TO PHYSICAL LENGTH OF SAWTOOTH WAVEFORMS	53	100	92	92	75	67	100	34	36	30	30	
M 767	M1-11 DO YOU USE OR REFER TO LINEAR SLOPE OF SAWTOOTH WAVEFORMS	42	80	92	92	50	33	100	29	26	35	22	
M 768	M1-12 DO YOU USE OR REFER TO GATE LENGTH OF SAWTOOTH WAVEFORMS	34	80	92	92	50	67	0	35	38	30	35	
M 769	M2-01 DO YOU USE SIGNAL GENERATORS IN YOUR PRESENT JOB	21	60	58	58	100	100	100	13	10	20	13	
M 770	M2-02 DO YOU PERFORM OPERATIONAL CHECKS WHILE USING SIGNAL GENERATORS	21	60	58	58	75	67	100	13	10	20	13	
M 771	M2-03 DO YOU PERFORM PERIODIC MAINTENANCE SUCH AS ADJUSTING, ALIGNING, OR CALIBRATING WHILE USING SIGNAL GENERATORS	17	20	42	42	50	67	0	10	5	20	4	USE OF SIGNAL GENERATORS
M 772	M2-04 DO YOU TROUBLESHOOT TO AN ASSEMBLY OR SUBASSEMBLY WHILE USING SIGNAL GENERATORS	23	20	50	50	75	100	0	10	5	20	4	
M 773	M2-05 DO YOU TROUBLESHOOT TO THE SMALLEST REPLACEABLE COMPONENT WHILE USING SIGNAL GENERATORS	6	0	33	33	0	0	0	3	0	10	0	
M 774	M2-06 DO YOU USE AUDIO SINE-WAVE GENERATORS	9	40	17	17	50	33	100	3	2	5	4	
M 775	M2-07 DO YOU USE AUDIO NON-SINUSOIDAL WAVE GENERATORS SUCH AS SQUARE WAVE, TRIANGLE, PULSE, OR SPIKE	9	40	33	33	25	0	100	3	2	5	4	
M 776	M2-08 DO YOU USE RF GENERATORS LESS THAN 1,000 MH	17	0	25	25	25	33	0	5	0	15	0	
M 777	M2-09 DO YOU USE RF GENERATORS GREATER THAN 1,000 MH	17	20	50	50	100	100	100	8	5	15	4	
M 778	M2-10 DO YOU USE OTHER SPECIAL PURPOSE OR MULTI-FUNCTION GENERATORS	9	20	42	42	50	33	100	6	2	15	4	
M 779	M3-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH ALTERNATING CURRENT OR DIRECT CURRENT MOTORS OR GENERATORS	21	80	75	75	25	33	0	40	40	40	35	
M 780	M3-02 DO YOU INSPECT MOTORS	15	40	75	75	0	0	0	35	33	40	26	
M 781	M3-03 DO YOU CLEAN OR LUBRICATE MOTORS	8	0	58	58	25	33	0	21	17	30	4	
M 782	M3-04 DO YOU OPERATE MOTORS	11	40	75	75	25	33	0	29	29	30	17	MOTORS AND GENERATORS
M 783	M3-05 DO YOU REMOVE OR REPLACE COMPLETE MOTORS	17	20	75	75	25	33	0	27	29	35	17	
M 784	M3-06 DO YOU REMOVE OR REPLACE MOTOR PARTS	4	0	33	33	0	0	0	5	5	5	0	
M 785	M3-07 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF MOTORS	17	60	75	75	25	33	0	32	33	30	30	
M 786	M3-08 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF MOTORS	8	0	25	25	0	0	0	3	5	0	4	
M 787	M3-09 DO YOU PERFORM ANY TASKS ON FIELD COILS	6	20	8	8	0	0	0	0	0	0	0	
M 788	M3-10 DO YOU PERFORM ANY TASKS ON ARMATURES	6	20	8	8	0	0	0	0	0	0	0	
M 789	M3-11 DO YOU PERFORM ANY TASKS ON ROTORS	6	20	8	8	0	0	0	0	0	0	0	
M 790	M3-12 DO YOU PERFORM ANY TASKS ON BRUSHES	4	20	17	17	0	0	0	2	2	0	0	
M 791	M3-13 DO YOU PERFORM ANY TASKS ON SLIP RINGS	6	20	8	8	0	0	0	2	2	0	0	
M 792	M3-14 DO YOU PERFORM ANY TASKS ON COMMUTATORS	6	20	8	8	0	0	0	0	0	0	0	
M 793	M3-15 DO YOU PERFORM ANY TASKS ON POLE PIECES	6	20	8	8	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
M 794	M3-16 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OF THE FORCE OR TORQUE CREATED BY A MOTOR	6	0	17	17	0	0	0	2	0	5	0	
M 795	M3-17 DO YOU DETERMINE OR MEASURE THE DIRECTION OF THE MECHANICAL FORCE OR TORQUE CREATED BY A MOTOR	6	0	33	33	0	0	0	5	5	5	0	
M 796	M3-18 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OR DIRECTION OF THE INDUCED VOLTAGE IN MOTORS	6	0	33	33	0	0	0	10	10	10	0	
M 797	M3-19 DO YOU WORK WITH SYNCHRONOUS MOTORS	6	60	42	42	0	0	0	31	29	35	13	
M 798	M3-20 DO YOU WORK WITH INDUCTION MOTORS	8	60	50	50	0	0	0	32	33	30	22	
M 799	M3-21 DO YOU WORK WITH SPLIT-PHASE MOTORS	6	60	42	42	0	0	0	16	21	5	9	
M 800	M3-22 DO YOU WORK WITH SOME COMBINATION OF THE ABOVE MOTORS	6	60	67	67	25	33	0	27	31	20	22	
M 801	M3-23 DO YOU INSPECT GENERATORS	6	40	50	50	0	0	0	11	12	10	4	
M 802	M3-24 DO YOU CLEAN OR LUBRICATE GENERATORS	2	0	33	33	0	0	0	5	7	0	0	
M 803	M3-25 DO YOU OPERATE GENERATORS	6	40	50	50	0	0	0	13	19	10	9	
M 804	M3-26 DO YOU REMOVE OR REPLACE COMPLETE GENERATORS	4	20	50	50	0	0	0	8	10	5	4	
M 805	M3-27 DO YOU REMOVE OR REPLACE GENERATOR PARTS	2	0	17	17	0	0	0	2	0	5	0	
M 806	M3-28 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF GENERATORS	6	40	58	58	0	0	0	16	17	15	13	
M 807	M3-29 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF GENERATORS	2	0	17	17	0	0	0	0	0	0	0	
N 808	N1-01 DO YOU WORK WITH METERS IN YOUR PRESENT JOB	70	80	83	83	100	100	100	74	74	75	74	
N 809	N1-02 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF PERMANENT MAGNETS	9	60	33	33	0	0	0	11	12	10	9	
N 810	N1-03 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF MOVING COILS	11	60	33	33	0	0	0	11	12	10	9	METER MOVEMENTS
N 811	N1-04 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF SPIRAL SPRINGS	8	60	25	25	0	0	0	10	19	0	13	
N 812	N1-05 DO YOU READ METER SCALES	72	80	83	83	100	100	100	74	74	75	74	
N 813	N1-06 DO YOU EXTEND THE RANGE OF AMMETERS	26	40	67	67	75	67	100	29	31	25	35	
N 814	N1-07 DO YOU ZERO OHMMETERS	70	80	83	83	100	100	100	69	67	75	70	
N 815	N1-08 DO YOU ZERO AMMETERS	30	40	75	75	50	33	100	34	36	30	39	
N 816	N1-09 DO YOU EXTEND THE RANGE OF VOLTMETERS	36	40	67	67	75	67	100	44	48	35	48	
N 817	N1-10 DO YOU USE OR REFER TO VOLTMETER SENSITIVITY (EXPRESSED IN UNITS OF OHMS PER VOLT)	45	60	75	75	50	67	0	31	40	10	35	
N 818	N2-01 DO YOU WORK WITH SATURABLE REACTORS OR MAGNETIC AMPLIFIERS IN YOUR PRESENT JOB	6	40	75	75	50	33	100	32	29	40	17	
N 819	N2-02 DO YOU INSPECT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	6	0	67	67	50	33	100	24	19	35	13	
N 820	N2-03 DO YOU CLEAN MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	6	0	33	33	25	0	100	13	12	15	9	
N 821	N2-04 DO YOU ADJUST MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	9	20	33	33	0	0	0	29	26	35	17	
N 822	N2-05 DO YOU TROUBLESHOOT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	9	20	67	67	50	33	100	24	17	40	13	
N 823	N2-06 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	6	20	75	75	50	33	100	24	17	40	9	SATURABLE REACTORS AND MAGNETIC AMPLIFIERS
N 824	N2-07 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIER OR SATURABLE REACTOR COMPONENTS	9	0	42	42	25	0	100	5	5	5	9	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
N	825	N2-08 DO YOU USE OR REFER TO HYSTERESIS CURVES OR LOOPS	2	20	25	25	0	0	0	2	2	0	0	
N	826	N2-09 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE REACTORS	4	40	33	33	25	0	100	15	17	10	9	
N	827	N2-10 DO YOU MEASURE OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE REACTORS	4	20	42	42	25	0	100	11	12	10	9	
N	828	N2-11 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS FOR MAGNETIC AMPLIFIERS	4	40	33	33	0	0	0	16	17	15	9	
N	829	N2-12 DO YOU USE OR REFER TO COERCIVE FORCE IN SATURABLE REACTORS	0	0	0	0	0	0	0	0	0	0	0	
N	830	N2-13 DO YOU USE OR REFER TO RESIDUAL MAGNETISM IN SATURABLE REACTORS	0	20	8	8	0	0	0	0	0	0	0	
N	831	N2-14 DO YOU USE OR REFER TO FLUX DENSITY IN SATURABLE REACTORS	0	20	0	0	0	0	0	0	0	0	0	
N	832	N2-15 DO YOU USE OR REFER TO POINT OF SATURATION IN SATURABLE REACTORS	0	0	8	8	0	0	0	5	7	0	4	
N	833	N2-16 DO YOU USE OR REFER TO SATURABLE REACTOR SCHEMATIC SYMBOLS	2	20	42	42	25	0	100	8	7	10	4	
N	834	N3-01 DO YOU WORK WITH WAVESHAPING CIRCUITS IN YOUR PRESENT JOB	49	100	92	92	75	67	100	50	50	50	48	
N	835	N3-02 DO YOU USE OR REFER TO TRANSIENT INTERVALS	19	60	67	67	0	0	0	19	19	20	13	
N	836	N3-03 DO YOU USE OR REFER TO PULSE WIDTH (PW)	49	100	92	92	50	67	0	47	45	50	39	
N	837	N3-04 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	34	100	92	92	25	33	0	40	43	35	35	
N	838	N3-05 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	49	100	92	92	75	67	100	47	45	50	39	
N	839	N3-06 DO YOU USE OR REFER TO DIFFERENTIATING CIRCUITS	21	60	75	75	25	0	100	26	26	25	26	
N	840	N3-07 DO YOU USE OR REFER TO INTEGRATING CIRCUITS	30	100	75	75	50	67	0	37	33	45	26	
N	841	N3-08 DO YOU USE OR REFER TO THE CLASSIFICATION OF TIME CONSTANTS (TC) AS LONG, MEDIUM, OR SHORT	30	80	50	50	25	0	100	29	29	30	17	
N	842	N3-09 DO YOU DETERMINE WHETHER AN LR OR RC CIRCUIT IS DIFFERENTIATING OR INTEGRATING BASED ON THE TIME CONSTANT AND OUTPUT CONFIGURATION	6	60	42	42	25	33	0	13	10	20	0	WAVESHAPING CIRCUITS
N	843	N3-10 DO YOU WORK WITH SQUARE WAVE GENERATORS	21	40	83	83	0	0	0	34	33	35	26	
N	844	N3-11 DO YOU WORK WITH RECTANGULAR WAVE GENERATORS	13	0	58	58	0	0	0	21	19	25	17	
O	845	01-01 DO YOU WORK ON SINGLE SIDEBAND SYSTEMS IN YOUR PRESENT JOB	2	0	0	0	0	0	0	3	5	0	9	
O	846	01-02 DO YOU INSPECT SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0	2	2	0	4	
O	847	01-03 DO YOU CLEAN SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	
O	848	01-04 DO YOU ALIGN SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0	2	2	0	4	
O	849	01-05 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0	2	2	0	4	
O	850	01-06 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	0	0	0	2	2	0	4	
O	851	01-07 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	SINGLE SIDEBAND SYSTEMS
O	852	01-08 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	0	0	0	2	2	0	4	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075
0 853	01-09 DO YOU PERFORM TASKS ON SSB AUDIO AMPLIFIERS	0	0	0	0	0	0	0	2	2	0	4
0 854	01-10 DO YOU PERFORM TASKS ON SSB BALANCED MODULATORS	0	0	0	0	0	0	0	2	2	0	4
0 855	01-11 DO YOU PERFORM TASKS ON SSB CARRIER OSCILLATORS	0	0	0	0	0	0	0	2	2	0	4
0 856	01-12 DO YOU PERFORM TASKS ON SSB LC FILTERS	0	0	0	0	0	0	0	2	2	0	4
0 857	01-13 DO YOU PERFORM TASKS ON SSB CRYSTAL FILTERS	0	0	0	0	0	0	0	2	2	0	4
0 858	01-14 DO YOU PERFORM TASKS ON SSB MECHANICAL FILTERS	0	0	0	0	0	0	0	2	2	0	4
0 859	01-15 DO YOU PERFORM TASKS ON SSB OSCILLATORS	0	0	0	0	0	0	0	3	5	0	9
0 860	01-16 DO YOU PERFORM TASKS ON SSB MIXERS	0	0	0	0	0	0	0	3	5	0	9
0 861	01-17 DO YOU PERFORM TASKS ON SSB DRIVERS	0	0	0	0	0	0	0	2	2	0	4
0 862	01-18 DO YOU PERFORM TASKS ON SSB POWER AMPLIFIERS	0	0	0	0	0	0	0	3	5	0	9
0 863	01-19 DO YOU PERFORM TASKS ON SSB RF AMPLIFIERS	0	0	0	0	0	0	0	2	2	0	4
0 864	01-20 DO YOU PERFORM TASKS ON SSB FREQUENCY CONVERTERS	0	0	0	0	0	0	0	2	2	0	4
0 865	01-21 DO YOU PERFORM TASKS ON SSB IF AMPLIFIERS	0	0	0	0	0	0	0	3	5	0	9
0 866	01-22 DO YOU PERFORM TASKS ON SSB DEMODULATORS	0	0	0	0	0	0	0	3	5	0	9
0 867	01-23 DO YOU PERFORM TASKS ON SSB DON'T REMEMBER WHICH SSB SYSTEM STAGES	0	0	0	0	0	0	0	2	2	0	4
0 868	01-24 DO YOU USE OR REFER TO SELECTIVE FADING	0	0	0	0	0	0	0	0	0	0	0
0 869	01-25 DO YOU USE OR REFER TO PEAK POWER	0	0	0	0	0	0	0	2	2	0	4
0 870	01-26 DO YOU USE OR REFER TO FREQUENCY STABILITY	0	0	0	0	0	0	0	2	2	0	4
0 871	01-27 DO YOU USE OR REFER TO RESPONSE CURVES FOR BANDWIDTH FILTERS	0	0	0	0	0	0	0	2	2	0	4
0 872	01-28 DO YOU CALCULATE PEAK POWER OR EFFECTIVE POWER OF SSB TRANSMITTERS	0	0	0	0	0	0	0	0	0	0	0
0 873	01-29 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB TRANSMITTER SCHEMATIC DIAGRAMS	0	0	0	0	0	0	0	2	2	0	4
0 874	01-30 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB RECEIVER SCHEMATIC DIAGRAMS	0	0	0	0	0	0	0	2	2	0	4
0 875	02-01 DO YOU WORK ON PULSE MODULATION SYSTEMS IN YOUR PRESENT JOB	26	20	83	83	25	0	100	48	48	50	39
0 876	02-02 DO YOU INSPECT PULSE MODULATION SYSTEMS	17	20	83	83	25	0	100	34	31	40	30
0 877	02-03 DO YOU CLEAN PULSE MODULATION SYSTEMS	6	0	67	67	25	0	100	23	17	35	9
0 878	02-04 DO YOU ALIGN PULSE MODULATION SYSTEMS	23	20	75	75	25	0	100	45	45	45	39
0 879	02-05 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS	26	20	83	83	25	0	100	40	38	45	35
0 880	02-06 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEM COMPONENTS	19	0	75	75	25	0	100	31	31	30	30
0 881	02-07 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS	25	20	83	83	25	0	100	39	36	45	35
0 882	02-08 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEM COMPONENTS	15	0	75	75	25	0	100	32	31	35	30
0 883	02-09 DO YOU WORK ON PULSE-AMPLITUDE MODULATION (PAM) SYSTEMS	9	20	25	25	25	0	100	18	17	20	17
0 884	02-10 DO YOU WORK ON PULSE-DURATION MODULATION (PDM) SYSTEMS	9	20	92	92	0	0	0	19	19	20	22
0 885	02-11 DO YOU WORK ON PULSE-POSITION MODULATION (PPM) SYSTEMS	9	0	25	25	0	0	0	10	12	5	9
0 886	02-12 DO YOU WORK ON PULSE-CODE MODULATION (PCM) SYSTEMS	2	0	8	8	0	0	0	6	5	10	4
0 887	02-13 DO YOU WORK ON LINE PULSING MODULATION SYSTEMS	2	0	17	17	0	0	0	10	10	10	9
0 888	02-14 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF MODULATION SYSTEM	15	0	17	17	0	0	0	23	19	30	22

PULSE MODULATION SYSTEMS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075
0	889	02-15 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER SUPPLIES	17	20	67	67	0	0	0	32	29	40	26
0	890	02-16 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM CHARGING CHOKES AND CHARGING DIODES	6	0	58	58	0	0	0	27	26	30	26
0	891	02-17 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE FORMING NETWORKS	19	20	83	83	25	0	100	34	33	35	35
0	892	02-18 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TIMERS	9	20	50	50	0	0	0	26	29	30	26
0	893	02-19 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM SWITCHES SUCH AS GAS THYRATRONS	15	20	75	75	0	0	0	27	26	30	30
0	894	02-20 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE TRANSFORMERS	17	20	75	75	25	0	100	35	33	40	35
0	895	02-21 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TRANSMITTER TUBES	17	20	83	83	25	0	100	34	33	35	35
0	896	02-22 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM RF AMPLIFIERS	23	20	83	83	25	0	100	32	31	35	30
0	897	02-23 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM FREQUENCY CONVERTERS	13	20	75	75	25	0	100	23	21	25	22
0	898	02-24 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM IF AMPLIFIERS	17	20	83	83	25	0	100	29	26	35	22
0	899	02-25 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DETECTORS	19	20	83	83	25	0	100	27	26	30	26
0	900	02-26 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM VIDEO AMPLIFIERS	23	20	83	83	25	0	100	32	31	35	30
0	901	02-27 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER VIDEO AMPLIFIERS	17	20	75	75	0	0	0	26	29	30	26
0	902	02-28 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DON'T REMEMBER WHICH PULSE MODULATION SYSTEM STAGES	6	0	25	25	0	0	0	6	5	10	9
0	903	02-29 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	26	20	83	83	25	0	100	46	48	50	39
0	904	02-30 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	15	20	75	75	0	0	0	40	43	35	35
0	905	02-31 DO YOU USE OR REFER TO PULSE WIDTH (PW)	26	20	83	83	0	0	0	40	38	45	26
0	906	02-32 DO YOU USE OR REFER TO PULSE SHAPE	25	20	83	83	25	0	100	37	40	30	35
0	907	02-33 DO YOU USE OR REFER TO PEAK POWER	25	20	83	83	25	0	100	32	33	30	35
0	908	02-34 DO YOU USE OR REFER TO AVERAGE POWER	17	20	75	75	25	0	100	31	33	25	30
0	909	02-35 DO YOU CALCULATE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	11	20	75	75	0	0	0	21	24	15	22
0	910	02-36 DO YOU MEASURE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	15	20	75	75	25	0	100	34	36	30	26
0	911	02-37 DO YOU USE FORMULAS TO CALCULATE AVERAGE POWER OR PEAK POWER OF PULSE MODULATION TRANSMIT SYSTEMS	9	20	75	75	0	0	0	6	7	5	9
0	912	02-38 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION TRANSMITTER SCHEMATIC DIAGRAMS	21	20	75	75	25	0	100	39	40	35	30
0	913	02-39 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION RECEIVER SCHEMATIC DIAGRAMS	26	20	75	75	25	0	100	45	45	45	35
0	914	03-01 DO YOU WORK WITH ANTENNAS IN YOUR PRESENT JOB	79	60	83	83	100	100	100	87	86	90	91
0	915	03-02 DO YOU INSPECT ANTENNAS	68	20	92	92	100	100	100	77	79	85	87

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
0 916	03-03 DO YOU CLEAN ANTENNAS	30	20	92	92	100	100	100	65	62	70	70	
0 917	03-04 DO YOU PHYSICALLY ALIGN ANTENNAS	75	40	83	83	50	33	100	77	79	75	83	
0 918	03-05 DO YOU ELECTRICALLY ALIGN ANTENNAS	68	40	83	83	100	100	100	77	79	75	83	
0 919	03-06 DO YOU TROUBLESHOOT TO ANTENNAS	75	40	92	92	100	100	100	79	76	85	87	ANTENNAS
0 920	03-07 DO YOU TROUBLESHOOT TO ANTENNA COMPONENTS	70	20	92	92	100	100	100	68	67	70	74	
0 921	03-08 DO YOU REMOVE OR INSTALL ANTENNAS	75	40	92	92	100	100	100	76	79	70	91	
0 922	03-09 DO YOU REMOVE OR REPLACE COMPONENTS OF ANTENNAS	66	20	92	92	100	100	100	76	71	85	83	
0 923	03-10 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF E OR ELECTRIC FIELD LINES	11	40	33	33	0	0	0	13	14	10	17	
0 924	03-11 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF H OR MAGNETIC FIELD LINES	9	40	33	33	0	0	0	13	14	10	17	
0 925	03-12 DO YOU DETERMINE THE DIRECTION OF THE MAGNETIC LINES IN RELATION TO THE ELECTRIC LINES OF FORCE FOR ANTENNAS	6	40	25	25	0	0	0	10	10	10	13	
0 926	03-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE OF CORRECT LENGTH (HALF-WAVE) ACT AS INDUCTIVE LOADS TO THE GENERATOR	8	20	17	17	25	33	0	5	7	0	9	
0 927	03-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE LONGER THAN A HALF-WAVE ACT AS INDUCTIVE LOADS TO THE GENERATOR	6	20	25	25	0	0	0	5	7	0	9	
0 928	03-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE SHORTER THAN A HALF-WAVE ACT AS CAPACITIVE LOADS TO THE GENERATOR	2	20	8	8	25	33	0	5	7	0	9	
0 929	03-16 DO YOU WORK WITH HERTZ ANTENNAS	19	20	0	0	50	33	100	13	14	10	13	
0 930	03-17 DO YOU WORK WITH MARCONI ANTENNAS	2	20	0	0	0	0	0	3	2	5	0	
0 931	03-18 DO YOU WORK WITH BROADSIDE ARRAYS	0	20	0	0	0	0	0	8	10	5	9	
0 932	03-19 DO YOU WORK WITH END-FIRE ARRAYS	4	20	0	0	0	0	0	11	14	5	9	
0 933	03-20 DO YOU WORK WITH CARDIOID ARRAYS	0	20	0	0	25	0	100	3	5	0	4	
0 934	03-21 DO YOU WORK WITH COLLINEAR ARRAYS	2	20	8	8	0	0	0	10	10	10	4	
0 935	03-22 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC INDUCTION FIELDS WHEN WORKING WITH ANTENNAS	4	20	8	8	0	0	0	6	7	10	4	
0 936	03-23 DO YOU MEASURE ELECTROMAGNETIC INDUCTION FIELDS OF ANTENNAS	4	20	0	0	0	0	0	8	10	5	9	
0 937	03-24 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC RADIATION FIELDS WHEN WORKING WITH ANTENNAS	6	20	33	33	25	0	100	18	19	15	9	
0 938	03-25 DO YOU MEASURE ELECTROMAGNETIC RADIATION FIELDS OF ANTENNAS	6	20	0	0	0	0	0	6	10	5	9	
0 939	03-26 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA RADIATION	4	0	17	17	0	0	0	8	7	10	9	
0 940	03-27 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA INDUCTION FIELD	4	0	8	8	0	0	0	8	7	10	9	
0 941	03-28 ARE ANY OF THE ANTENNAS YOU WORK ON LINEARLY POLARIZED	4	20	17	17	25	33	0	63	69	60	61	
0 942	03-29 ARE ANY OF THE ANTENNAS YOU WORK ON CIRCULARLY POLARIZED	4	0	17	17	0	0	0	68	71	60	70	
0 943	03-30 DO YOU MEASURE OR DETERMINE THE POLARITY OF ANTENNAS YOU WORK ON	2	20	17	17	0	0	0	90	98	25	98	
0 944	03-31 DO YOU CONSTRUCT, OR MAKE THE CALCULATIONS NECESSARY TO CONSTRUCT, ANTENNAS OF CORRECT LENGTH FOR SPECIFIC WAVELENGTHS	2	20	8	8	0	0	0	2	2	0	9	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
O	945	03-32 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS	2	20	25	25	0	0	0	13	19	10	13	
O	946	03-33 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS DIRECTORS	2	20	17	17	0	0	0	15	19	15	9	
O	947	03-34 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS REFLECTORS	4	20	33	33	25	0	100	23	29	20	17	
O	948	03-35 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN DON'T REMEMBER WHAT KIND OF ELEMENTS	21	0	42	42	25	33	0	40	36	50	35	
O	949	03-36 DO YOU WORK ON UNIDIRECTIONAL ANTENNAS	25	40	33	33	25	33	0	29	29	40	26	
O	850	03-37 DO YOU WORK ON BIDIRECTIONAL ANTENNAS	11	40	33	33	25	0	100	16	19	10	13	
O	851	03-38 DO YOU WORK ON DON'T REMEMBER THE DIRECTIONALITY	21	0	17	17	50	67	0	37	36	40	43	
O	852	03-39 DO YOU WORK WITH ROTAR ANTENNA ARRAYS	21	0	17	17	0	0	0	26	31	15	39	
P	953	PI-01 IN YOUR PRESENT JOB DO YOU WORK WITH TRANSMISSION LINES (TRANSMISSION LINES ARE DEFINED TO INCLUDE LEADS BETWEEN RECEIVERS AND ANTENNAS, TELEPHONE LEADS, AS WELL AS HIGH VOLTAGE POWER LINES, ETC. DO NOT CONSIDER WAVEGUIDES AS TRANSMISSION LINES	15	60	67	67	75	67	100	13	10	20	4	
P	954	PI-02 DO YOU REFER TO OR USE COPPER LOSS OR I2R LOSS IN TRANSMISSION LINES	2	40	17	17	0	0	0	2	2	0	0	
P	955	PI-03 DO YOU REFER TO OR USE SKIN EFFECTS OF HIGH FREQUENCY CURRENTS IN TRANSMISSION LINES	4	40	8	8	0	0	0	0	0	0	0	TRANSMISSION LINES
P	956	PI-04 DO YOU REFER TO OR USE RADIATION LOSS IN TRANSMISSION LINES	4	60	33	33	0	0	0	5	5	5	0	
P	957	PI-05 DO YOU USE OR REFER TO DIELECTRIC LOSS IN TRANSMISSION LINES	2	40	17	17	25	33	0	3	5	0	0	
P	958	PI-06 DO YOU USE OR REFER TO LEAKAGE LOSSES IN TRANSMISSION LINES	4	60	25	25	25	33	0	8	5	15	0	
P	959	PI-07 DO YOU WORK WITH TWISTED PAIR TRANSMISSION LINES	6	20	58	58	25	0	100	0	0	0	0	
P	960	PI-08 DO YOU WORK WITH TWIN LEAD TRANSMISSION LINES	6	20	42	42	25	0	100	0	0	0	0	
P	961	PI-09 DO YOU WORK WITH OPEN TWO-WIRE TRANSMISSION LINES	6	20	8	8	25	0	100	0	0	0	0	
P	962	PI-10 DO YOU WORK WITH FLEXIBLE COAXIAL CABLE TRANSMISSION LINES	15	60	67	67	75	67	100	13	7	25	4	
P	963	PI-11 DO YOU WORK WITH RIGID COAXIAL CABLE TRANSMISSION LINES	6	20	42	42	50	67	0	5	2	10	0	
P	964	PI-12 DO YOU TROUBLESHOOT TRANSMISSION LINES	15	20	67	67	50	67	0	11	5	25	4	
P	965	PI-13 DO YOU ANALYZE VOLTAGE OR CURRENT WAVEFORMS IN TRANSMISSION LINES TO DETERMINE THE TYPE OF TERMINATION (OPEN, SHORTED, CAPACITIVE, INDUCTIVE)	8	40	8	8	25	33	0	2	2	0	0	
P	966	PI-14 DO YOU SELECT APPROPRIATE TRANSMISSION LINES TERMINATIONS TO ACHIEVE DESIRED WAVEFORMS	4	0	17	17	0	0	0	3	2	5	0	
P	967	PI-15 DO YOU USE OR REFER TO SCHEMATIC SYMBOLS FOR LINE TERMINATIONS IN TERMS OF CIRCUIT TERMINATIONS	4	60	42	42	25	33	0	3	2	5	0	
P	968	PI-16 DO YOU MEASURE STANDING WAVE RATIOS (SR) OF TRANSMISSION LINES	6	0	8	8	25	0	100	2	2	0	0	
P	969	PI-17 DO YOU CALCULATE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES	2	20	8	8	0	0	0	2	2	0	0	
P	970	PI-18 DO YOU PERFORM THE CALCULATIONS NECESSARY TO DETERMINE THE IMPEDANCE AND LENGTH OF QUARTER - WAVELENGTH MATCHING TRANSFORMERS TO MATCH TRANSMISSION LINES TO LOADS	2	20	17	17	0	0	0	2	2	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 076	
P 971	P1-19 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING MATCHING TRANSFORMERS	2	20	33	33	25	0	100	3	0	10	0	
P 972	P1-20 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING DELTA MATCHING	2	20	8	8	0	0	0	0	0	0	0	
P 973	P1-21 DO YOU SELECT THE TYPE OF TRANSMISSION LINE NEEDED FOR PARTICULAR JOBS WITHOUT REFERRING TO TECHNICAL DATA	4	0	0	0	0	0	0	3	0	10	0	
P 974	P1-22 DO YOU USE OR REFER TO THE TERM CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES	2	40	25	25	0	0	0	2	0	5	0	
P 975	P1-23 DO YOU CALCULATE THE CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES	2	20	0	0	0	0	0	0	0	0	0	
P 976	P1-24 DO YOU USE OR REFER TO THE TERM CUTOFF FREQUENCY OF TRANSMISSION LINES	2	0	8	8	0	0	0	0	0	0	0	
P 977	P1-25 DO YOU USE OR REFER TO THE TERM VELOCITY FACTOR (K) OF TRANSMISSION LINES	2	0	0	0	0	0	0	0	0	0	0	
P 978	P1-26 DO YOU COMPUTE THE ELECTRICAL LENGTH OF TRANSMISSION LINES FOR PARTICULAR FREQUENCIES	2	40	17	17	0	0	0	0	0	0	0	
P 979	P1-27 DO YOU CONSTRUCT TRANSMISSION LINES OF PARTICULAR ELECTRICAL LENGTH FOR GIVEN FREQUENCIES	2	0	17	17	0	0	0	0	0	0	0	
P 980	P1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT AS THE FREQUENCY INCREASES AND THE PHYSICAL LENGTH OF TRANSMISSION LINES REMAIN CONSTANT, THE ELECTRICAL LENGTH INCREASES	2	40	17	17	25	0	100	0	0	0	0	
P 981	P1-29 DO YOU WORK WITH NONRESONANT (FLAT) TRANSMISSION LINES	2	0	0	0	25	0	100	0	0	0	0	
P 982	P1-30 DO YOU WORK WITH RESONANT TRANSMISSION LINES	4	20	0	0	25	0	100	2	0	5	0	
P 983	P1-31 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING STUB MATCHING	4	20	25	25	25	0	100	0	0	0	0	
P 984	P2-01 DO YOU WORK WITH WAVEGUIDES OR CAVITY RESONATORS IN YOUR PRESENT JOB	75	80	92	92	75	67	100	81	79	85	83	
P 985	P2-02 DO YOU INSPECT WAVEGUIDES OR CAVITY RESONATORS	79	20	92	92	75	67	100	71	69	75	83	
P 986	P2-03 DO YOU CLEAN WAVEGUIDES OR CAVITY RESONATORS	40	0	58	58	25	33	0	52	48	60	57	WAVEGUIDES AND CAVITY RESONATORS
P 987	P2-04 DO YOU BEND WAVEGUIDES OR CAVITY RESONATORS	23	20	25	25	0	0	0	31	38	15	52	
P 988	P2-05 DO YOU TWIST WAVEGUIDES OR CAVITY RESONATORS	15	0	8	8	0	0	0	27	33	15	43	
P 989	P2-06 DO YOU PRESSURIZE WAVEGUIDES OR CAVITY RESONATORS	72	40	83	83	50	33	100	76	71	85	78	
P 990	P2-07 DO YOU PURGE WAVEGUIDES OR CAVITY RESONATORS	45	0	58	58	0	0	0	18	26	0	39	
P 991	P2-08 DO YOU TROUBLESHOOT WAVEGUIDES OR CAVITY RESONATORS	75	40	83	83	50	67	0	63	62	65	65	
P 992	P2-09 DO YOU REMOVE OR INSTALL COMPLETE WAVEGUIDES	75	20	92	92	75	67	100	76	79	80	83	
P 993	P2-10 DO YOU REMOVE OR INSTALL WAVEGUIDE SECTIONS	79	20	83	83	75	67	100	71	67	80	83	
P 994	P2-11 DO YOU REMOVE OR INSTALL DUMMY LOADS	79	20	92	92	75	67	100	55	52	60	61	
P 995	P2-12 DO YOU REMOVE OR INSTALL E BENDS	15	20	50	50	25	0	100	23	24	15	22	
P 996	P2-13 DO YOU REMOVE OR INSTALL H BENDS	17	20	50	50	25	0	100	21	26	10	22	
P 997	P2-14 DO YOU REMOVE OR INSTALL OTHER BENDS	32	20	83	83	25	33	0	48	45	55	57	
P 998	P2-15 DO YOU REMOVE OR INSTALL CHOKE JOINTS	15	0	25	25	0	0	0	16	17	15	13	
P 999	P2-16 DO YOU REMOVE OR INSTALL ROTATING JOINTS	17	20	17	17	0	0	0	44	36	60	30	
P1000	P2-17 DO YOU REMOVE OR INSTALL DIRECTIONAL COUPLERS	60	20	75	75	50	67	0	61	55	75	57	
P1001	P2-18 DO YOU REMOVE OR INSTALL BIDIRECTIONAL COUPLERS	25	20	67	67	25	33	0	44	40	50	48	
P1002	P2-19 DO YOU USE OR REFER TO 'A' HALL OF WAVEGUIDES	8	40	17	17	0	0	0	3	5	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-YSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075
P1003	P2-20 DO YOU USE OR REFER TO "B" WALL OF WAVEGUIDES	8	40	17	17	0	0	0	3	5	0	0
P1004	P2-21 DO YOU USE OR REFER TO CUTOFF FREQUENCY OF WAVEGUIDES	9	20	8	8	0	0	0	3	5	0	0
P1005	P2-22 DO YOU USE OR REFER TO FREQUENCY-DETERMINING WALL OF WAVEGUIDES	6	40	8	8	0	0	0	3	5	0	0
P1006	P2-23 DO YOU USE OR REFER TO POWER-DETERMINING WALL OF WAVEGUIDES	6	40	8	8	0	0	0	3	5	0	0
P1007	P2-24 DO YOU USE OR REFER TO ELECTRIC FIELD BOUNDARY CONDITIONS	2	20	8	8	0	0	0	3	5	0	0
P1008	P2-25 DO YOU USE OR REFER TO MAGNETIC FIELD BOUNDARY CONDITIONS	2	20	8	8	0	0	0	3	5	0	0
P1009	P2-26 DO YOU USE OR REFER TO DUPLEXER FIELD BOUNDARY CONDITIONS	4	0	17	17	0	0	0	5	5	5	0
P1010	P2-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST WAVEGUIDES ARE MADE WITH A "B" WALL SIZE OF .7 WAVELENGTHS OF THE OPERATING FREQUENCY	4	20	8	8	0	0	0	6	7	5	0
P1011	P2-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST "A" WALLS RANGE FROM .2 TO .5 WAVELENGTHS IN SIZE, WITH .35 USED AS AN AVERAGE	0	20	17	17	0	0	0	5	5	5	0
P1012	P2-29 ARE YOU CONCERNED WITH THE MATERIAL (SUCH AS BRASS) WHICH WAVEGUIDES ARE MADE OF	0	0	0	0	0	0	0	5	5	5	4
P1013	P2-30 DO YOU COMPUTE THE LENGTH OF A WAVEGUIDE FOR SPECIFIC INSTALLATION	2	0	8	8	0	0	0	2	2	0	0
P1014	P2-31 DO YOU USE THE RIGHT HAND RULE TO DETERMINE THE DIRECTION OF PROPAGATION, DIRECTION OF "E" FIELD, OR DIRECTION OF "H" FIELD IN WAVEGUIDES	0	40	8	8	0	0	0	3	5	0	4
P1015	P2-32 DO YOU USE OR REFER TO THE TIME PHASE OF PEAK "E" OR "H" LINES IN WAVEGUIDES	0	40	8	8	0	0	0	5	7	0	4
P1016	P2-33 DO YOU MEASURE THE TIME PHASE OF "E" OR "H" LINES IN WAVEGUIDES	0	20	0	0	0	0	0	5	7	0	4
P1017	P2-34 DO YOU USE OR REFER TO THE SPACE QUADRATURE OF "E" OR "H" LINES IN WAVEGUIDES	0	0	8	8	0	0	0	2	2	0	0
P1018	P2-35 ARE HIGH POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	17	20	25	25	25	33	0	31	33	25	22
P1019	P2-36 ARE LOW POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	11	0	33	33	25	33	0	19	21	15	4
P1020	P2-37 ARE LOOPS USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	8	0	25	25	25	33	0	8	12	0	4
P1021	P2-38 ARE APERTURES (WINDOWS OR IRISES) USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	6	20	25	25	25	33	0	35	38	30	22
P1022	P2-39 ARE DON'T REMEMBER THE KIND OF ENERGY COUPLING USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	32	20	17	17	50	33	100	37	33	45	35
P1023	P2-40 DO YOU DETERMINE WHERE PROBES SHOULD BE MOUNTED IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	2	0	0	0	0	0	0	3	5	0	4
P1024	P2-41 DO YOU DETERMINE THE POSITIONING OF LOOPS IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0	0	0	0	3	5	0	4

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	QY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
P1025	P2-42 DO YOU DETERMINE THE POSITIONING OR SIZE OF APERTURES IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0	0	0	0	3	5	0	4	
P1026	P2-43 ARE CHOKE JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	4	20	25	25	0	0	0	16	17	15	4	
P1027	P2-44 ARE ROTATING JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	26	40	50	50	75	67	100	48	45	55	39	
P1028	P2-45 ARE DON'T REMEMBER THE KIND OF JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	30	20	25	25	0	0	0	29	26	35	17	
P1029	P2-46 DO YOU TUNE CAVITY RESONATORS USING CAPACITIVE TUNING	4	20	42	42	0	0	0	13	19	0	4	
P1030	P2-47 DO YOU TUNE CAVITY RESONATORS USING INDUCTIVE TUNING	4	20	33	33	25	33	0	10	14	0	4	
P1031	P2-48 DO YOU TUNE CAVITY RESONATORS USING VOLUME TUNING	11	0	25	25	0	0	0	19	21	15	13	
P1032	P2-49 DO YOU TUNE CAVITY RESONATORS USING DON'T REMEMBER THE METHOD OF TUNING	21	20	17	17	50	33	100	35	31	45	39	
P1033	P2-50 DO YOU MEASURE THE FREQUENCY OF SIGNALS IN CAVITY RESONATORS	30	40	75	75	25	0	100	29	31	25	26	
P1034	P3-01 IN YOUR PRESENT JOB DO YOU WORK WITH KLYSTRONS, TRAVELING WAVE TUBES (TWT), PARAMETRIC AMPLIFIERS, OR MAGNETRONS	55	60	83	83	100	100	100	68	69	65	70	
P1035	P3-02 DO YOU USE OR REFER TO INTERELECTRODE CAPACITANCE	4	20	17	17	0	0	0	6	10	0	9	
P1036	P3-03 DO YOU USE OR REFER TO ELECTRON TRANSIT TIME	4	20	8	8	0	0	0	5	2	10	4	
P1037	P3-04 DO YOU USE OR REFER TO LEAD INDUCTANCE	0	20	8	8	0	0	0	8	10	5	9	
P1038	P3-05 DO YOU USE OR REFER TO RF LOSSES IN EXTERNAL CIRCUITRY	17	20	67	67	50	67	0	16	10	30	9	
P1039	P3-06 DO YOU USE OR REFER TO PRINCIPLE OF ELECTRON VELOCITY MODULATION	4	20	17	17	25	0	100	3	2	5	0	MICROWAVE AMPLIFIERS AND OSCILLATORS
P1040	P3-07 DO YOU USE OR REFER TO ELECTRON BUNCHING	2	20	17	17	0	0	0	3	2	5	0	
P1041	P3-08 DO YOU WORK WITH TWO-CAVITY KLYSTRONS	8	0	8	8	50	67	0	13	10	20	4	
P1042	P3-09 DO YOU WORK WITH THREE-CAVITY KLYSTRONS	0	0	0	0	0	0	0	3	0	10	0	
P1043	P3-10 DO YOU WORK WITH REFLEX KLYSTRONS	11	0	50	50	25	0	100	56	69	40	61	
P1044	P3-11 DO YOU WORK WITH TRAVELING-WAVE TUBES (TWT)	6	0	25	25	0	0	0	10	14	0	9	
P1045	P3-12 DO YOU WORK WITH NONDEGENERATIVE PARAMETRIC AMPLIFIERS	9	0	67	67	0	0	0	2	2	0	0	
P1046	P3-13 DO YOU WORK WITH UP-CONVERTER PARAMETRIC AMPLIFIERS	15	0	17	17	0	0	0	2	2	0	0	
P1047	P3-14 DO YOU WORK WITH MAGNETRONS	53	20	83	83	100	100	100	68	69	65	70	
P1048	P3-15 DO YOU INSPECT KLYSTRONS OR TWT	8	0	58	58	75	67	100	45	45	45	52	
P1049	P3-16 DO YOU CLEAN KLYSTRONS OR TWT	2	0	8	8	0	0	0	16	14	20	13	
P1050	P3-17 DO YOU TUNE KLYSTRONS OR TWT ELECTRICALLY	8	0	50	50	25	33	0	37	36	40	43	
P1051	P3-18 DO YOU TUNE KLYSTRONS OR TWT MECHANICALLY	2	0	58	58	75	67	100	52	52	50	48	
P1052	P3-19 DO YOU PERFORM OPERATIONAL CHECKS OF KLYSTRONS OR TWT	13	20	67	67	75	67	100	42	40	45	43	
P1053	P3-20 DO YOU TROUBLESHOOT KLYSTRONS OR TWT	9	20	50	50	50	33	100	34	38	25	39	
P1054	P3-21 DO YOU REMOVE OR REPLACE COMPLETE KLYSTRON OR TWT	9	20	58	58	100	100	100	45	43	50	39	
P1055	P3-22 DO YOU REMOVE OR REPLACE KLYSTRON OR TWT COMPONENTS	9	0	0	0	0	0	0	18	19	15	22	
P1056	P3-23 DO YOU INSPECT PARAMETRIC AMPLIFIERS	13	0	75	75	25	0	100	3	5	0	4	
P1057	P3-24 DO YOU CLEAN PARAMETRIC AMPLIFIERS	4	0	33	33	25	0	100	2	2	0	0	
P1058	P3-25 DO YOU ADJUST PARAMETRIC AMPLIFIERS	25	40	75	75	25	0	100	3	5	0	4	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075
P1059 P3-26 DO YOU TUNE PARAMETRIC AMPLIFIERS	21	20	75	75	25	0	100	3	5	0	4
P1060 P3-27 DO YOU PERFORM OPERATIONAL CHECKS OF PARAMETRIC AMPLIFIERS	28	40	83	83	25	0	100	3	5	0	4
P1061 P3-28 DO YOU TROUBLESHOOT PARAMETRIC AMPLIFIERS	23	20	83	83	25	0	100	2	2	0	0
P1062 P3-29 DO YOU REMOVE OR REPLACE COMPLETE PARAMETRIC AMPLIFIER	25	20	83	83	25	0	100	3	5	0	4
P1063 P3-30 DO YOU REMOVE OR REPLACE PARAMETRIC AMPLIFIER COMPONENTS	4	0	58	58	25	0	100	2	2	0	0
P1064 P3-31 DO YOU INSPECT MAGNETRONS	49	0	83	83	75	67	100	52	52	50	65
P1065 P3-32 DO YOU CLEAN MAGNETRONS	21	0	58	58	0	0	0	27	29	25	35
P1066 P3-33 DO YOU ADJUST MAGNETRONS	26	20	25	25	0	0	0	65	69	65	65
P1067 P3-34 DO YOU TUNE MAGNETRONS	26	40	50	50	0	0	0	55	52	60	57
P1068 P3-35 DO YOU PERFORM OPERATIONAL CHECKS OF MAGNETRONS	55	40	83	83	100	100	100	63	69	60	65
P1069 P3-36 DO YOU TROUBLESHOOT MAGNETRONS	51	20	58	58	50	33	100	44	48	35	52
P1070 P3-37 DO YOU REMOVE OR REPLACE COMPLETE MAGNETRON	53	20	83	83	100	100	100	47	45	50	43
P1071 P3-38 DO YOU REMOVE OR REPLACE MAGNETRON COMPONENTS	17	0	8	8	0	0	0	13	17	5	26
P1072 P3-39 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS COLLECTOR PLATES	2	20	0	0	0	0	0	6	10	0	9
P1073 P3-40 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER CAVITIES	0	20	0	0	0	0	0	5	7	0	4
P1074 P3-41 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER GRIDS	0	20	0	0	0	0	0	5	7	0	4
P1075 P3-42 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS FEEDBACK LOOPS	2	20	8	8	0	0	0	8	12	0	13
P1076 P3-43 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS DRIFT SPACES	0	20	0	0	0	0	0	3	5	0	0
P1077 P3-44 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER GRIDS	0	20	8	8	0	0	0	3	5	0	0
P1078 P3-45 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER CAVITIES	0	20	8	8	0	0	0	3	5	0	0
P1079 P3-46 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CONTROL GRIDS	0	20	8	8	0	0	0	10	14	0	17
P1080 P3-47 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATHODES	2	20	0	0	0	0	0	13	17	5	22
P1081 P3-48 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON REPELLER (REFLECTOR) PLATES	2	20	67	67	25	0	100	39	45	25	48
P1082 P3-49 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRIDS	2	20	25	25	0	0	0	24	33	5	30
P1083 P3-50 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRID CAVITY GAPS	0	20	17	17	0	0	0	16	24	0	22
P1084 P3-51 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON RESONANT CAVITIES	4	20	50	50	25	0	100	31	38	15	43
P1085 P3-52 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON MAGNETIC COUPLING LOOPS	0	20	25	25	0	0	0	19	29	0	26
P1086 P3-53 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON FILAMENTS	2	20	25	25	0	0	0	29	36	15	30
P1087 P3-54 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON CATHODES	2	20	25	25	0	0	0	29	38	10	35

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075
P1088	P3-55 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON OUTPUT LEADS	2	20	42	42	0	0	0	24	31	10	30
P1089	P3-56 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES FILAMENTS	4	20	25	25	0	0	0	11	17	0	17
P1090	P3-57 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES CATHODES	4	20	17	17	0	0	0	13	19	0	22
P1091	P3-58 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MODULATOR GRIDS	2	20	17	17	0	0	0	8	12	0	13
P1092	P3-59 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ANODES	4	20	25	25	0	0	0	11	17	0	17
P1093	P3-60 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES HELIXES	4	20	25	25	0	0	0	5	7	0	0
P1094	P3-61 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES COLLECTORS	4	20	17	17	0	0	0	8	12	0	13
P1095	P3-62 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MAGNETS	2	20	17	17	0	0	0	10	14	0	17
P1096	P3-63 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ATTENUATORS	9	20	25	25	25	0	100	16	21	5	22
P1097	P3-64 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE CIRCULATORS	6	20	33	33	0	0	0	2	2	0	0
P1098	P3-65 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER SIGNAL CAVITIES	6	0	33	33	0	0	0	2	2	0	0
P1099	P3-66 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER IDLER CAVITIES	2	0	8	8	0	0	0	2	2	0	0
P1100	P3-67 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER VARACTOR DIODES	2	0	50	50	0	0	0	3	5	0	0
P1101	P3-68 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE ISOLATORS	4	0	33	33	50	33	100	5	7	0	4
P1102	P3-69 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER REVERSE-BIAS BATTERIES	2	0	17	17	0	0	0	2	2	0	0
P1103	P3-70 DO YOU PERFORM TASKS ON ANODES	2	0	0	0	0	0	0	10	14	0	17
P1104	P3-71 DO YOU PERFORM TASKS ON ANODE COOLING PINS	0	0	0	0	0	0	0	8	12	0	13
P1105	P3-72 DO YOU PERFORM TASKS ON COUPLING LOOPS	2	0	8	8	0	0	0	10	14	0	17
P1106	P3-73 DO YOU PERFORM TASKS ON HEATER LEADS	0	0	17	17	0	0	0	10	12	5	13
P1107	P3-74 DO YOU PERFORM TASKS ON RESONANT CAVITIES	6	0	8	8	0	0	0	18	24	5	35
P1108	P3-75 DO YOU PERFORM TASKS ON CATHODES	4	0	0	0	0	0	0	11	17	0	22
P1109	P3-76 DO YOU PERFORM TASKS ON MAGNETS	4	0	17	17	0	0	0	13	17	5	22
Q1110	Q1-01 DO YOU USE OR REFER TO STORAGE REGISTERS	8	60	83	83	50	33	100	3	5	0	4
Q1111	Q1-02 DO YOU USE OR REFER TO SHIFT REGISTERS	6	60	83	83	25	0	100	3	5	0	4
Q1112	Q1-03 DO YOU USE OR REFER TO LOGIC SYMBOLS OF SHIFT REGISTERS	4	60	83	83	25	0	100	3	5	0	4
Q1113	Q1-04 DO YOU USE OR REFER TO LOGIC SYMBOLS OF STORAGE REGISTERS	4	60	83	83	25	0	100	3	5	0	4
Q1114	Q1-05 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	2	80	75	75	25	0	100	3	5	0	4
Q1115	Q1-06 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF REGISTERS	6	40	75	75	0	0	0	3	5	0	4

REGISTERS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
Q1116	Q1-07 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP OF A SHIFT REGISTER AFTER A SPECIFIED NUMBER OF SHIFT PULSES HAVE PASSED	6	80	75	75	0	0	0	3	5	0	4	
Q1117	Q2-01 DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR STORAGE DEVICES IN YOUR PRESENT JOB	90	80	92	92	25	33	0	15	21	0	13	
Q1118	Q2-02 DO YOU USE OR REFER TO DELAY LINES	17	60	92	92	25	33	0	18	24	5	13	STORAGE DEVICES
Q1119	Q2-03 DO YOU USE OR REFER TO MAGNETIC CORES	8	80	67	67	0	0	0	5	7	0	4	
Q1120	Q2-04 DO YOU USE OR REFER TO MAGNETIC DRUMS	42	80	92	92	0	0	0	3	5	0	4	
Q1121	Q2-05 DO YOU USE OR REFER TO MAGNETIC TAPES	19	60	58	58	0	0	0	5	7	0	4	
Q1122	Q2-06 DO YOU USE OR REFER TO ACCESS TIME OR SPEED OF MEMORY SYSTEMS	13	80	75	75	25	33	0	5	7	0	4	
Q1123	Q2-07 DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY SYSTEMS	30	80	75	75	0	0	0	2	2	0	0	
Q1124	Q2-08 DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS	2	80	17	17	0	0	0	2	2	0	0	
Q1125	Q2-09 DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES	9	60	58	58	0	0	0	3	5	0	4	
Q1126	Q3-01 IN YOUR PRESENT JOB, DO YOU WORK WITH DIGITAL-TO-ANALOG (D/A) CONVERTERS, ANALOG-TO-DIGITAL (A/D) CONVERTERS, OR BINARY-TO-DECIMAL READOUT CONVERTERS	23	40	58	58	0	0	0	3	5	0	4	
Q1127	Q3-02 DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT VOLTAGES	13	40	92	42	0	0	0	2	2	0	0	
Q1128	Q3-03 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE COUNT IN ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS IS DETERMINED BY ADDING THE DENOMINATORS OF THE RESISTORS	6	20	8	8	0	0	0	2	2	0	0	DIGITAL TO ANALOG CONVERTERS
Q1129	Q3-04 DO YOU COMPUTE ANALOG VOLTAGES FOR GIVEN BINARY COUNTS IN ELECTRONIC DIGITAL-TO-ANALOG (D/A) CONVERTERS	9	40	58	58	0	0	0	2	2	0	0	
Q1130	Q3-05 DO YOU PERFORM SAMPLE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	4	20	50	50	0	0	0	2	2	0	0	
Q1131	Q3-06 DO YOU PERFORM HOLD FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	4	20	50	50	0	0	0	2	2	0	0	
Q1132	Q3-07 DO YOU PERFORM COMPARE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	4	20	42	42	0	0	0	2	2	0	0	
Q1133	Q3-08 DO YOU PERFORM DIGITIZE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	6	20	50	50	0	0	0	2	2	0	0	
Q1134	Q3-09 DO YOU PERFORM DON'T REMEMBER WHICH FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	8	20	17	17	0	0	0	3	5	0	4	
Q1135	Q3-10 DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D CONVERTERS	6	20	58	58	0	0	0	2	2	0	0	
Q1136	Q3-11 DO YOU USE OR REFER TO HOLD FUNCTION OF A/D CONVERTERS	6	20	58	58	0	0	0	2	2	0	0	
Q1137	Q3-12 DO YOU USE OR REFER TO COMPARE FUNCTION OF A/D CONVERTERS	8	20	50	50	0	0	0	2	2	0	0	
Q1138	Q3-13 DO YOU USE OR REFER TO DIGITAL FUNCTION OF A/D CONVERTERS	8	20	58	58	0	0	0	2	2	0	0	
Q1139	Q3-14 DO YOU PERFORM ANY TASKS ON MECHANICAL ANALOG-TO-DIGITAL (A/D) CONVERTERS	6	20	17	17	0	0	0	2	2	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
R1140	R1-01 DO YOU WORK WITH PHANTASTRON CIRCUITRY IN YOUR PRESENT JOB	11	20	67	67	25	33	0	5	7	0	4	PHANTASTRONS
R1141	R2-01 IN YOUR PRESENT JOB DO YOU WORK WITH SCHMITT TRIGGER CIRCUITS	4	60	75	75	50	67	0	5	5	5	4	
R1142	R2-02 DO YOU TRACE DATA FLOW THROUGH SCHMITT TRIGGER SCHEMATIC DIAGRAMS	2	60	75	75	50	67	0	3	5	0	4	SCHMITT TRIGGERS
R1143	R2-03 DO YOU USE OR REFER TO SCHMITT TRIGGER LOGIC SYMBOLS	4	40	75	75	0	0	0	2	2	0	0	
R1144	R3-01 IN YOUR PRESENT JOB DO YOU FABRICATE MULTICONDUCTOR CABLES	25	0	58	58	50	33	100	26	26	25	22	CABLE FABRICATION
R1145	R3-02 DO YOU FABRICATE COAXIAL CABLES	51	20	83	83	50	33	100	44	38	55	43	
S1146	S1-01 IN YOUR PRESENT JOB DO YOU PERFORM ANY TASKS ON VISUAL READOUT SYSTEMS	51	20	67	67	25	33	0	21	26	10	35	
S1147	S1-02 DO YOU PERFORM ANY TASKS ON NIXIE LIGHTS OR NIXIE LIGHT DECODER SYSTEMS	11	20	58	58	0	0	0	2	2	0	4	INPUT/OUTPUT DEVICES
S1148	S1-03 DO YOU ANALYZE NIXIE LIGHT DECODER SYSTEMS USING BOOLEAN ALGEBRA	4	20	25	25	0	0	0	2	2	0	4	
S1149	S2-01 DO YOU WORK WITH PHOTO TUBES IN YOUR PRESENT JOB	2	20	8	8	0	0	0	2	2	0	4	PHOTO SENSITIVE DEVICES
S1150	S3-01 IN YOUR PRESENT JOB DO YOU WORK WITH CHOPPER CIRCUITS	23	40	83	83	0	0	0	37	36	40	26	
S1151	S3-02 DO YOU MEASURE EXCITATION FREQUENCIES	11	20	50	50	0	0	0	10	10	10	9	
S1152	S3-03 DO YOU MEASURE VOLTAGE-CURRENT PHASE RELATIONSHIPS	13	0	33	33	0	0	0	10	10	10	9	
S1153	S3-04 DO YOU USE OR REFER TO EXCITATION FREQUENCIES	11	20	58	58	0	0	0	8	7	10	4	
S1154	S3-05 DO YOU USE OR REFER TO VOLTAGE-CURRENT PHASE RELATIONSHIPS	11	0	33	33	0	0	0	13	14	10	9	
S1155	S3-06 DO YOU USE SERVOS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	15	40	58	58	0	0	0	15	17	10	17	
S1156	S3-07 DO YOU USE DETECTORS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	21	40	67	67	0	0	0	27	29	25	17	
S1157	S3-08 DO YOU USE ERROR SIGNAL DEVICES IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	21	40	83	83	0	0	0	26	26	25	17	
S1158	S3-09 DO YOU USE COMPARISON CIRCUITS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	17	20	83	83	0	0	0	19	19	20	9	SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)
T1159	T1-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH INFRARED SYSTEMS	75	80	92	92	0	0	0	0	0	0	0	
T1160	T1-02 DO YOU INSPECT INFRARED SYSTEMS	79	20	92	92	0	0	0	0	0	0	0	
T1161	T1-03 DO YOU CLEAN INFRARED SYSTEMS	42	20	92	92	0	0	0	0	0	0	0	
T1162	T1-04 DO YOU ADJUST OR CALIBRATE INFRARED SYSTEMS	72	60	92	92	0	0	0	0	0	0	0	INFRARED
T1163	T1-05 DO YOU OPERATE INFRARED SYSTEMS	79	60	92	92	0	0	0	0	0	0	0	
T1164	T1-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF INFRARED SYSTEMS	79	40	92	92	0	0	0	0	0	0	0	
T1165	T1-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF INFRARED SYSTEMS	77	40	92	92	0	0	0	0	0	0	0	
T1166	T1-08 DO YOU TROUBLESHOOT DOWN TO INFRARED SYSTEM COMPONENT PARTS	57	20	92	92	0	0	0	0	0	0	0	
T1167	T1-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF INFRARED SYSTEMS	81	40	92	92	0	0	0	0	0	0	0	
T1168	T1-10 DO YOU REMOVE OR REPLACE INFRARED SYSTEM COMPONENT PARTS	49	20	92	92	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
T1169	T1-11 DO YOU USE OR REFER TO FAR REGION	2	40	17	17	0	0	0	0	0	0	0	
T1170	T1-12 DO YOU USE OR REFER TO INTERMEDIATE REGION	4	40	25	25	0	0	0	0	0	0	0	
T1171	T1-13 DO YOU USE OR REFER TO NEAR REGION	4	40	17	17	0	0	0	0	0	0	0	
T1172	T1-14 DO YOU USE OR REFER TO MICRON	8	80	25	25	0	0	0	0	0	0	0	
T1173	T1-15 DO YOU USE OR REFER TO GRAY BODIES	2	60	17	17	0	0	0	0	0	0	0	
T1174	T1-16 DO YOU USE OR REFER TO BLACK BODIES	2	60	17	17	0	0	0	0	0	0	0	
T1175	T1-17 DO YOU USE OR REFER TO ABSORPTION	17	80	58	58	0	0	0	0	0	0	0	
T1176	T1-18 DO YOU USE OR REFER TO SCATTERING	6	60	25	25	0	0	0	0	0	0	0	
T1177	T1-19 DO YOU USE OR REFER TO ABSOLUTE ZERO	9	80	50	50	0	0	0	0	0	0	0	
T1178	T1-20 DO YOU PERFORM TASKS ON BLITZ	0	0	0	0	0	0	0	0	0	0	0	
T1179	T1-21 DO YOU PERFORM TASKS ON TARGET BUTTONS	0	0	0	0	0	0	0	0	0	0	0	
T1180	T1-22 DO YOU PERFORM TASKS ON ERECTOR LENSES	2	0	0	0	0	0	0	0	0	0	0	
T1181	T1-23 DO YOU PERFORM TASKS ON OCULAR LENSES	9	20	33	33	0	0	0	0	0	0	0	
T1182	T1-24 DO YOU PERFORM TASKS ON CORRECTION LENSES	2	0	17	17	0	0	0	0	0	0	0	
T1183	T1-25 DO YOU PERFORM TASKS ON FILTERS	9	20	58	58	0	0	0	0	0	0	0	
T1184	T1-26 DO YOU PERFORM TASKS ON SPHERICAL MIRRORS	4	0	8	8	0	0	0	0	0	0	0	
T1185	T1-27 DO YOU PERFORM TASKS ON PLANE MIRRORS	2	0	0	0	0	0	0	0	0	0	0	
T1186	T2-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH LASERS	0	20	0	0	0	0	0	0	0	0	0	
T1187	T2-02 DO YOU INSPECT LASER SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	
T1188	T2-03 DO YOU CLEAN LASER SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	
T1189	T2-04 DO YOU OPERATE LASER SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	
T1190	T2-05 DO YOU OPERATE LASER SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	LASERS
T1191	T2-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF LASER SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	
T1192	T2-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	
T1193	T2-08 DO YOU TROUBLESHOOT TO COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	
T1194	T2-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	
T1195	T2-10 DO YOU REMOVE OR REPLACE COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	
T1196	T2-11 DO YOU USE OR REFER TO ANGSTROMS (A)	0	20	0	0	0	0	0	0	0	0	0	
T1197	T2-12 DO YOU USE OR REFER TO ELECTRON ENERGY LEVELS	0	20	0	0	0	0	0	0	0	0	0	
T1198	T2-13 DO YOU USE OR REFER TO GROUND STATE	0	20	0	0	0	0	0	0	0	0	0	
T1199	T2-14 DO YOU USE OR REFER TO EXCITED STATE	0	20	0	0	0	0	0	0	0	0	0	
T1200	T2-15 DO YOU USE OR REFER TO PACKET OF RADIATION	0	20	0	0	0	0	0	0	0	0	0	
T1201	T2-16 DO YOU USE OR REFER TO PHOTONS	0	20	0	0	0	0	0	0	0	0	0	
T1202	T2-17 DO YOU USE OR REFER TO SPONTANEOUS EMISSION	0	20	0	0	0	0	0	0	0	0	0	
T1203	T2-18 DO YOU USE OR REFER TO STIMULATED EMISSION	0	20	0	0	0	0	0	0	0	0	0	
T1204	T2-19 DO YOU USE OR REFER TO COHERENCE OR INCOHERENCE	0	20	0	0	0	0	0	0	0	0	0	
T1205	T2-20 DO YOU USE OR REFER TO INVERSION LEVEL	0	0	0	0	0	0	0	0	0	0	0	
T1206	T2-21 DO YOU USE OR REFER TO MONOCHROMATIC	0	0	0	0	0	0	0	0	0	0	0	
T1207	T2-22 DO YOU WORK WITH ACTIVE MATERIALS	0	0	0	0	0	0	0	0	0	0	0	
T1208	T2-23 DO YOU WORK WITH PUMPING SOURCES	0	0	0	0	0	0	0	0	0	0	0	
T1209	T2-24 DO YOU WORK WITH FULL SILVERED (100% REFLECTIVE)	0	0	0	0	0	0	0	0	0	0	0	

AD-A052 132 AIR FORCE OCCUPATIONAL MEASUREMENT CENTER LACKLAND A--ETC F/G 5/9
WEAPONS CONTROL SYSTEMS CAREER LADDER, AFSC 321X2.(U)
SEP 77

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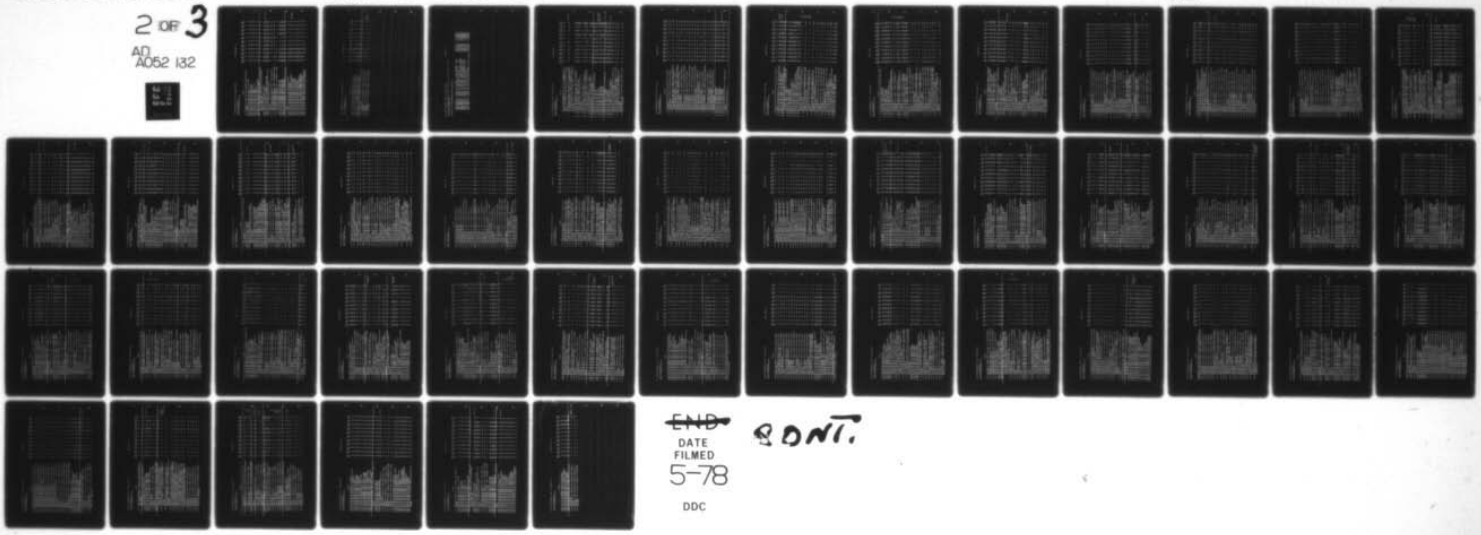
2 OF 3
AD A052 132



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TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 069	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075	
T1210	T2-25 DO YOU WORK WITH HALF SILVERED (92% REFLECTIVE) MIRRORS	0	0	0	0	0	0	0	0	0	0	0	
T1211	T2-26 DO YOU WORK WITH HELICAL FLASHTUBES	0	0	0	0	0	0	0	0	0	0	0	
T1212	T2-27 DO YOU WORK WITH RUBY	0	0	0	0	0	0	0	0	0	0	0	
T1213	T2-28 DO YOU WORK WITH HELIUM-NEON	0	0	0	0	0	0	0	0	0	0	0	
T1214	T2-29 DO YOU WORK WITH HELIUM-XENON	0	0	0	0	0	0	0	0	0	0	0	
T1215	T2-30 DO YOU WORK WITH XENON	0	0	0	0	0	0	0	0	0	0	0	
T1216	T2-31 DO YOU WORK WITH CESIUM-HELIUM	0	0	0	0	0	0	0	0	0	0	0	
T1217	T2-32 DO YOU WORK WITH ARGON	0	0	0	0	0	0	0	0	0	0	0	
T1218	T2-33 DO YOU WORK WITH NEODYMIUM IN GLASS	0	0	0	0	0	0	0	0	0	0	0	
T1219	T2-34 DO YOU WORK WITH GALLIUM ARSENIDE	0	0	0	0	0	0	0	0	0	0	0	
T1220	T3-01 IN YOUR PRESENT JOB DO YOU WORK WITH DISPLAY TUBES, SUCH AS DIRECT VIEW STORAGE (DVST) OR MULTIPLE MODE STORAGE TUBES (MMST)	68	80	92	92	100	100	100	81	76	90	78	
T1221	T3-02 DO YOU INSPECT DVST OR MMST	53	20	92	92	75	67	100	63	55	80	61	
T1222	T3-03 DO YOU CLEAN DVST OR MMST	30	20	75	75	50	33	100	34	33	35	35	DISPLAY TUBES
T1223	T3-04 DO YOU ADJUST OR CALIBRATE DVST OR MMST	60	60	75	75	25	33	0	55	57	50	65	
T1224	T3-05 DO YOU OPERATE SYSTEMS THAT CONTAIN DVST OR MMST	66	60	92	92	100	100	100	79	76	85	78	
T1225	T3-06 DO YOU TROUBLESHOOT DVST OR MMST CIRCUITS	57	40	92	92	75	67	100	60	57	65	61	
T1226	T3-07 DO YOU REMOVE OR REPLACE DVST OR MMST TUBES FROM MAJOR ASSEMBLIES OR UNITS	21	0	92	92	100	100	100	50	48	55	43	
T1227	T3-08 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF DVST	2	20	0	0	75	67	100	44	50	30	52	
T1228	T3-09 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF MMST	38	80	75	75	0	0	0	0	0	0	0	
T1229	T3-10 DO YOU PERFORM TASKS ON FLOOD GUNS	34	60	67	67	0	0	0	42	43	40	48	
T1230	T3-11 DO YOU PERFORM TASKS ON WRITE GUNS	26	60	50	50	0	0	0	50	52	45	57	
T1231	T3-12 DO YOU PERFORM TASKS ON ATTACK GUNS	40	60	67	67	0	0	0	24	21	30	26	
T1232	T3-13 DO YOU PERFORM TASKS ON ERASE GUNS	40	60	67	67	0	0	0	40	43	35	43	
T1233	T3-14 DO YOU PERFORM TASKS ON STORAGE GRIDS	36	60	92	92	25	33	0	32	36	25	35	
U1234	U1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY PROGRAMMING TASKS	15	40	83	83	0	0	0	3	5	0	4	
U1235	U1-02 DO YOU USE OR REFER TO DECIMAL SYSTEMS	11	40	58	58	0	0	0	2	2	0	0	
U1236	U1-03 DO YOU USE OR REFER TO PROGRAMS	13	20	75	75	0	0	0	2	2	0	0	
U1237	U1-04 DO YOU USE OR REFER TO HEXIDECIMAL SYSTEMS	2	20	58	58	0	0	0	2	2	0	0	
U1238	U1-05 DO YOU USE OR REFER TO 8-4-2-1 SYSTEMS	8	40	50	50	0	0	0	2	2	0	0	PROGRAMMING
U1239	U1-06 DO YOU USE OR REFER TO FOUR SYSTEMS	0	0	8	8	0	0	0	2	2	0	0	
U1240	U1-07 DO YOU USE OR REFER TO BINARY SYSTEMS	17	40	75	75	0	0	0	2	2	0	0	
U1241	U1-08 DO YOU USE OR REFER TO TIME-SHARING	13	20	67	67	0	0	0	3	5	0	4	
U1242	U1-09 DO YOU USE OR REFER TO DATA WORDS	13	20	75	75	0	0	0	2	2	0	0	
U1243	U1-10 DO YOU USE OR REFER TO ADDRESS WORDS	13	20	83	83	0	0	0	2	2	0	0	
U1244	U1-11 DO YOU USE OR REFER TO ADDRESS/SUBADDRESS	8	20	75	75	0	0	0	2	2	0	0	
U1245	U1-12 DO YOU USE OR REFER TO STEERING/INFORMATION	15	20	75	75	0	0	0	2	2	0	0	
U1246	U1-13 DO YOU USE OR REFER TO INFORMATION WORDS	11	20	75	75	0	0	0	2	2	0	0	
U1247	U1-14 DO YOU PERFORM TASKS ON SINGLE LEVEL PROGRAMMING	2	0	58	58	0	0	0	2	2	0	0	
U1248	U1-15 DO YOU PERFORM TASKS ON MULTI-LEVEL PROGRAMMING	2	0	25	25	0	0	0	2	2	0	0	

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

GPSM9B PAGE 44

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DY-TSK	SPC 064	SPC 065	SPC 066	SPC 067	SPC 069	SPC 070	SPC 071	SPC 072	SPC 073	SPC 074	SPC 075
U1249 U1-16 DO YOU PERFORM TASKS ON INPUT DEVICES	15	0	75	75	0	0	0	2	2	0	0
U1250 U1-17 DO YOU PERFORM TASKS ON STORAGE DEVICES	13	0	75	75	0	0	0	2	2	0	0
U1251 U1-18 DO YOU PERFORM TASKS ON ARITHMETIC SECTIONS	13	0	83	83	0	0	0	2	2	0	0
U1252 U1-19 DO YOU PERFORM TASKS ON CONTROL SECTIONS	13	20	75	75	0	0	0	2	2	0	0
U1253 U1-20 DO YOU PERFORM TASKS ON OUTPUT DEVICES	15	20	75	75	0	0	0	2	2	0	0
U1254 U1-21 DO YOU PERFORM TASKS ON POWER SUPPLIES	17	20	83	83	0	0	0	2	2	0	0
U1255 U2-01 DO YOU USE DECIBELS TO EXPRESS AMPLIFICATION AND ATTENUATION	53	100	100	100	50	33	100	21	24	10	13
U1256 U2-02 DO YOU USE LOGARITHMS TO COMPUTE OUTPUT POWER IN DECIBELS	2	40	33	33	0	0	0	2	2	0	0
U1257 U2-03 DO YOU USE LOGARITHMS TO COMPUTE ATTENUATION IN DECIBELS	2	40	42	42	0	0	0	2	2	0	0
U1258 U2-04 DUMMY TASK TO IDENTIFY INCUMBENTS WHO PERFORMED NO TASKS	0	0	0	0	0	0	0	2	0	5	0

DB AND POWER RATIOS

TABULATION OF ELECTRONIC PRINCIPLES UTILIZATION DATA FOR SELECTED GROUPS
IN THE 321X2 CAREER FIELD.

REPORTS ON THE FOLLOWING GROUPS WERE REQUESTED

GROUP IDENTITY =	SPC226	ALL AMN DAFSC 32152P ASSIGNED TO USAFE	CONTAINING	12	MEMBERS.
GROUP IDENTITY =	SPC227	ALL AMN DAFSC 32152P ASSIGNED TO PACAF	CONTAINING	13	MEMBERS.
GROUP IDENTITY =	SPC228	ALL AIRMEN DAFSC 321520	CONTAINING	61	MEMBERS.
GROUP IDENTITY =	SPC229	ALL AMN DAFSC 321520 STATIONED IN CONUS	CONTAINING	45	MEMBERS.
GROUP IDENTITY =	SPC230	ALL AMN DAFSC 321520 STATIONED OVERSEAS	CONTAINING	16	MEMBERS.
GROUP IDENTITY =	SPC231	ALL AMN DAFSC 321520 ASSIGNED TO TAC	CONTAINING	37	MEMBERS.
GROUP IDENTITY =	SPC232	ALL AMN DAFSC 321520 ASSIGNED TO USAFE	CONTAINING	10	MEMBERS.
GROUP IDENTITY =	SPC233	ALL AMN DAFSC 321520 ASSIGNED TO PACAF	CONTAINING	5	MEMBERS.
GROUP IDENTITY =	SPC234	ALL AIRMEN DAFSC 321525	CONTAINING	18	MEMBERS.
GROUP IDENTITY =	SPC235	ALL AMN DAFSC 321525 ASSIGNED TO TAC	CONTAINING	17	MEMBERS.
GROUP IDENTITY =	SPC236	ALL AMN DAFSC 321525 ASSIGNED ALL OTHER COMMANDS	CONTAINING	1	MEMBERS.

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
A	1	A1-01 IN YOUR PRESENT JOB, DO YOU USE INSTRUMENTS, SUCH AS METERS OR OSCILLOSCOPES, IN WHICH IT IS NECESSARY TO AMPLIFY OR ATTENUATE VOLTAGE, RESISTANCE, ETC., BY POWERS OF 10.	100	85	75	71	88	70	100	60	67	65	100	
A	2	A1-02 DO YOU USE PUBLICATIONS, SUCH AS A TECHNICAL ORDERS OR MAINTENANCE MANUALS, IN WHICH IT IS NECESSARY FOR YOU TO MULTIPLY OR DIVIDE BY A POWER OF 10 BEFORE YOU CAN APPLY THE INFORMATION FROM THE PUBLICATION IN A USEFUL WAY ON THE JOB.	58	31	34	36	31	30	40	0	28	29	100	MATHEMATICS
A	3	A1-03 DO YOU REARRANGE AND SOLVE FORMULAS OR EQUATIONS.	17	31	28	31	19	30	20	20	22	18	100	
A	4	A1-04 DO YOU CALCULATE THE SQUARE ROOT OF A QUANTITY.	0	0	8	9	6	8	0	20	11	6	100	
A	5	A1-05 DO YOU SOLVE FOR UNKNOWN QUANTITIES.	25	8	23	22	25	19	30	20	22	18	100	
A	6	A1-06 DO YOU CONVERT NUMBERS TO LOGARITHMS.	0	8	7	7	6	3	0	20	6	0	100	
A	7	A1-07 DO YOU USE LOGARITHM TABLES IN ANY TYPE OF CALCULATIONS.	0	8	8	9	6	5	0	20	6	0	100	
A	8	A1-08 DO YOU SOLVE QUADRATIC EQUATIONS.	0	0	5	2	13	3	10	20	11	6	100	
A	9	A1-09 DO YOU USE THE NATURAL SYSTEM OF LOGARITHMS.	0	0	5	4	6	5	0	20	6	0	100	
A	10	A1-10 DO YOU PERFORM CALCULATIONS ON VECTOR QUANTITIES.	8	8	10	11	6	5	0	20	17	12	100	
A	11	A1-11 DO YOU WORK WITH TRIGONOMETRIC FUNCTIONS SUCH AS SINE, COSINE, OR TANGENT.	17	31	23	27	13	22	10	0	28	24	100	
A	12	A1-12 DO YOU DETERMINE AREAS OF PLANE FIGURES.	0	8	3	2	6	3	0	20	11	6	100	
A	13	A1-13 DO YOU SOLVE OR USE SIMULTANEOUS EQUATIONS.	0	8	7	7	6	5	0	20	6	0	100	
A	14	A1-14 DO YOU SOLVE OR USE PROPORTIONS.	8	15	11	11	13	8	0	20	6	0	100	
A	15	A2-01 DO YOU USE THE TERM VOLTAGE OR VOLT (V).	100	92	87	89	94	81	100	80	89	88	100	
A	16	A2-02 DO YOU USE THE TERM ELECTROMOTIVE FORCE (EMF).	33	31	30	31	25	22	30	0	22	18	100	
A	17	A2-03 DO YOU USE THE TERM OHM.	100	92	84	80	94	76	100	80	83	82	100	
A	18	A2-04 DO YOU USE THE TERM ION.	8	23	13	13	13	16	0	20	11	6	100	DIRECT CURRENT
A	19	A2-05 DO YOU USE THE TERM DYNE.	8	8	7	7	6	3	0	20	11	6	100	AND VOLTAGE
A	20	A2-06 DO YOU USE THE TERM AMPERE.	75	92	79	78	81	76	90	60	67	65	100	
A	21	A2-07 DO YOU USE THE TERM NEUTRON.	17	23	8	9	6	8	0	20	6	0	100	
A	22	A2-08 DO YOU USE THE TERM COULOMB.	0	15	15	18	6	14	0	20	6	0	100	
A	23	A2-09 DO YOU USE THE TERM PROTON.	17	23	8	9	6	8	0	20	6	0	100	
A	24	A3-01 DO YOU WORK WITH RESISTORS IN YOUR PRESENT JOB.	92	77	67	73	50	70	50	60	78	76	100	
A	25	A3-02 DO YOU INSPECT RESISTORS.	92	62	64	64	63	62	60	60	67	65	100	
A	26	A3-03 DO YOU CLEAN RESISTORS.	58	38	28	31	19	30	10	20	33	35	0	
A	27	A3-04 DO YOU ADJUST RESISTORS.	92	85	69	69	69	65	70	80	78	76	100	
A	28	A3-05 DO YOU CHECK OHMIC VALUE OR RESISTORS.	92	77	57	58	56	57	50	60	72	71	100	RESISTANCE
A	29	A3-06 DO YOU REMOVE OR REPLACE RESISTORS.	75	77	52	51	56	49	70	40	67	71	0	
A	30	A3-07 DO YOU USE OR REFER TO TEMPERATURE COEFFICIENTS FOR RESISTORS ON ANY TASKS YOU PERFORM.	33	31	23	29	19	16	20	20	33	29	100	
A	31	A3-08 DO YOU USE OR REFER TO RESISTOR SYMBOLS SUCH AS FIXED RESISTOR SYMBOLS OR TAPPED RESISTOR SYMBOLS.	92	62	66	67	63	62	60	60	67	65	100	
A	32	A3-09 DO YOU IDENTIFY OR CLASSIFY THE RESISTORS YOU WORK WITH AS CARBON, FIXED WIRE, SLIDE TAP, RHEOSTAT, OR POTENTIOMETER.	92	59	59	58	63	49	70	60	67	65	100	
A	33	A3-10 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE OHMIC VALUE OF RESISTANCE.	92	69	62	62	63	57	70	60	61	59	100	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
A	34	A3-11 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE TOLERANCE.	58	69	51	47	63	38	70	60	56	53	100	
A	35	A3-12 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE FAILURE RATE.	8	15	8	9	6	5	0	20	22	18	100	
A	36	A3-13 DO YOU MAKE DECISIONS IN WHICH YOU MUST DETERMINE HOW TWO OR MORE BATTERIES MUST BE CONNECTED TOGETHER TO ACHIEVE A SPECIFIC VOLTAGE.	25	8	16	18	13	16	0	20	17	12	100	
A	37	A3-14 DO YOU USE OR REFER TO THE SCHEMATIC SYMBOLS WHICH REPRESENT BATTERIES, FUSES, CONDUCTORS, LAMPS, OR SWITCHES	92	85	77	80	69	73	70	80	83	82	100	
A	38	A3-15 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES RESISTIVE CIRCUITS.	58	46	31	33	25	30	20	20	22	18	100	
A	39	A3-16 DO YOU CALCULATE TOTAL CURRENT FOR SERIES RESISTIVE CIRCUITS.	50	31	25	29	13	24	0	20	22	18	100	
A	40	A3-17 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES RESISTIVE CIRCUITS.	67	31	26	33	6	30	0	0	28	24	100	
A	41	A3-18 DO YOU CALCULATE POWER DISSIPATION FOR SERIES RESISTIVE CIRCUITS.	25	31	21	29	13	22	0	20	22	18	100	
A	42	A3-19 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES PARALLEL RESISTIVE CIRCUITS.	58	46	33	33	31	30	20	40	28	24	100	
A	43	A3-20 DO YOU CALCULATE TOTAL CURRENT FOR SERIES PARALLEL RESISTIVE CIRCUITS.	50	31	23	27	13	22	0	20	28	24	100	
A	44	A3-21 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	58	38	30	31	25	27	20	20	28	24	100	
A	45	A3-22 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	42	23	21	24	13	19	0	20	28	24	100	
A	46	A3-23 DO YOU CALCULATE POWER DISSIPATION FOR SERIES PARALLEL RESISTIVE CIRCUITS.	33	23	23	22	25	19	20	20	22	18	100	
A	47	A3-24 DO YOU CALCULATE TOTAL RESISTANCE FOR PARALLEL RESISTIVE CIRCUITS.	58	46	30	31	25	27	20	20	33	29	100	
A	48	A3-25 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RESISTIVE CIRCUITS.	50	31	23	27	13	22	0	20	33	29	100	
A	49	A3-26 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR PARALLEL RESISTIVE CIRCUITS.	58	38	30	31	25	27	20	20	33	29	100	
A	50	A3-27 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR PARALLEL RESISTIVE CIRCUITS.	50	23	23	27	13	22	0	20	28	24	100	
A	51	A3-28 DO YOU CALCULATE POWER DISSIPATION FOR PARALLEL RESISTIVE CIRCUITS.	33	15	23	22	25	19	20	20	28	24	100	
B	52	B1-01 DO YOU MEASURE RESISTANCE.	92	92	87	82	100	86	100	100	89	88	100	
B	53	B1-02 DO YOU REPAIR OHMMETERS.	0	8	5	7	0	8	0	0	6	6	0	
B	54	B1-03 DO YOU MEASURE VOLTAGE.	100	92	90	87	100	86	100	100	89	88	100	
B	55	B1-04 DO YOU REPAIR VOLTMETERS.	0	8	3	9	0	5	0	0	0	0	0	
B	56	B1-05 DO YOU REPAIR AMMETERS.	0	0	3	9	0	5	0	0	6	6	0	MULTIMETER USES
B	57	B1-06 DO YOU MEASURE CURRENT.	83	54	61	60	63	62	70	40	67	65	100	
B	58	B1-07 DO YOU USE MULTIMETERS.	92	85	85	80	100	89	100	100	83	82	100	
B	59	B1-08 DO YOU DIRECTLY USE A QUANTITY OF CHARGE CALLED A COULOMB.	0	15	5	7	0	5	0	0	6	0	100	
B	60	B1-09 DO YOU READ SCHEMATICS.	100	92	92	89	100	86	100	100	89	88	100	

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS GPSM4C PAGE 4

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
B	61	B2-01 DO YOU USE OR REFER TO THE TERM EFFECTIVE VOLTAGE (RMS).	58	62	64	60	75	59	60	80	50	47	100	ALTERNATING CURRENT
B	62	B2-02 DO YOU USE OR REFER TO THE TERM PEAK TO PEAK VOLTAGE.	75	69	79	76	88	70	80	100	72	71	100	
B	63	B2-03 DO YOU USE OR REFER TO THE TERM AVERAGE VOLTAGE (DC).	83	54	74	73	75	68	70	80	61	59	100	
B	64	B2-04 DO YOU USE OR REFER TO THE TERM WAVE LENGTH.	58	38	69	64	81	62	70	80	67	65	100	
B	65	B2-05 DO YOU USE OR REFER TO THE TERM FREQUENCY.	83	77	84	84	81	81	70	100	78	76	100	
B	66	B2-06 DO YOU USE OR REFER TO THE TERM INSTANTANEOUS VALUE.	25	15	31	31	31	27	30	20	33	29	100	
B	67	B3-01 DO YOU WORK WITH INDUCTORS OR CIRCUITS CONTAINING INDUCTORS, CHOKES, OR CHOKE COILS IN YOUR PRESENT JOB.	58	62	48	51	38	46	60	0	44	41	100	INDUCTORS AND INDUCTIVE REACTANCE
B	68	B3-02 DO YOU INSPECT INDUCTORS.	67	54	26	24	31	24	30	20	22	18	100	
B	69	B3-03 DO YOU CLEAN INDUCTORS.	50	15	18	20	13	22	0	20	11	12	0	
B	70	B3-04 DO YOU ADJUST INDUCTORS.	42	38	23	22	25	19	20	20	17	12	100	
B	71	B3-05 DO YOU REMOVE OR REPLACE INDUCTORS.	67	46	33	31	38	27	50	20	17	18	0	
B	72	B3-06 DO YOU USE OR REFER TO INDUCTANCE.	58	38	34	38	25	32	20	20	22	18	100	
B	73	B3-07 DO YOU USE OR REFER TO HENRIES.	50	46	23	27	13	24	10	0	17	12	100	
B	74	B3-08 DO YOU USE OR REFER TO INDUCTIVE REACTANCE.	42	38	26	29	19	22	30	0	17	12	100	
B	75	B3-09 DO YOU USE OR REFER TO COPPER LOSS IN INDUCTORS.	17	8	7	9	0	8	0	0	6	0	100	
B	76	B3-10 DO YOU USE OR REFER TO HYSTERESIS LOSS IN INDUCTORS.	17	8	10	13	0	11	0	0	6	0	100	
B	77	B3-11 DO YOU USE OR REFER TO EDDY CURRENT LOSS IN INDUCTORS	25	8	10	13	0	8	0	0	6	0	100	
B	78	B3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTANCE IS PROPORTIONAL TO THE SQUARE OF THE NUMBER OF TURNS OF THE COIL.	8	15	5	7	0	5	0	0	0	0	0	
B	79	B2-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE CROSS SECTIONAL AREA OF THE CORE.	8	8	8	11	0	8	0	0	6	0	100	
B	80	B2-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS INVERSELY PROPORTIONAL TO ITS LENGTH.	17	8	8	11	0	8	0	0	6	0	100	
B	81	B2-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE PERMEABILITY OF THE CORE MATERIAL.	17	8	7	9	0	5	0	0	6	0	100	
B	82	B2-16 DO YOU CALCULATE INDUCTANCE FOR PARTICULAR INDUCTORS USING FORMULAS.	8	0	2	2	0	3	0	0	6	0	100	
B	83	B3-17 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTANCE IN SERIES.	17	8	5	7	0	5	0	0	11	6	100	
B	84	B3-18 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN PARALLEL.	17	8	5	7	0	5	0	0	11	6	100	
B	85	B3-19 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES-PARALLEL CIRCUITS.	17	8	5	7	0	5	0	0	11	6	100	
B	86	B3-20 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LAGS VOLTAGE IN AC INDUCTOR CIRCUITS.	17	15	18	20	13	14	20	0	6	0	100	
B	87	B3-21 DO YOU CALCULATE INDUCTIVE REACTANCE.	17	8	7	9	0	5	0	0	11	6	100	
B	88	B3-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTIVE REACTANCE IS DIRECTLY PROPORTIONAL TO FREQUENCY.	17	8	13	13	13	11	20	0	11	6	100	
B	89	B3-23 DO YOU WORK WITH POWER INDUCTORS.	58	23	36	38	31	32	40	20	22	29	0	
B	90	B3-24 DO YOU WORK WITH AUDIO FREQUENCY INDUCTORS.	8	8	20	14	31	11	30	20	17	12	100	
B	91	B3-25 DO YOU WORK WITH RADIO FREQUENCY INDUCTORS.	42	31	39	36	31	30	40	20	44	41	100	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236
C	92	C1-01 DO YOU WORK WITH CAPACITORS OR CIRCUITS CONTAINING CAPACITORS IN YOUR PRESENT JOB.	83	54	61	62	56	57	50	80	78	76	100
C	93	C1-02 DO YOU INSPECT CAPACITORS.	75	62	49	49	50	49	40	60	50	47	100
C	94	C1-03 DO YOU CLEAN CAPACITORS.	58	54	21	24	13	24	0	20	33	35	0
C	95	C1-04 DO YOU ADJUST CAPACITORS.	58	54	28	27	31	22	40	0	28	24	100
C	96	C1-05 DO YOU TEST CAPACITORS.	67	62	49	49	50	49	50	60	33	29	100
C	97	C1-06 DO YOU DISCHARGE CAPACITORS.	75	62	44	47	38	46	40	40	44	41	100
C	98	C1-07 DO YOU REMOVE OR REPLACE CAPACITORS.	67	54	51	49	56	46	60	60	44	47	0
C	99	C1-08 DO YOU USE OR REFER TO DISTRIBUTED CAPACITANCE.	17	15	15	18	6	19	10	0	6	6	0
C	100	C1-09 DO YOU USE OR REFER TO ORBITAL STRESS OF ELECTRONS IN A DIELECTRIC.	8	23	5	7	0	5	0	0	6	0	100
C	101	C1-10 DO YOU USE OR REFER TO FARADS, MICROFARADS, OR PICOFARADS.	67	54	44	47	38	41	50	20	33	29	100
C	102	C1-11 DO YOU USE OR REFER TO CAPACITANCE.	67	38	48	51	38	43	40	40	39	35	100
C	103	C1-12 DO YOU USE OR REFER TO DIELECTRIC CONSTANT	17	23	11	13	6	11	0	0	11	6	100
C	104	C1-13 DO YOU USE OR REFER TO WORKING VOLTAGE RATING OF CAPACITORS	58	46	31	31	31	27	30	40	39	35	100
C	105	C1-14 DO YOU USE OR REFER TO CAPACITIVE REACTANCE	33	38	21	22	19	19	20	20	22	18	100
C	106	C1-15 DO YOU USE OR REFER TO CAPACITOR COLOR CODES	25	23	21	22	19	22	20	0	17	18	0
C	107	C1-16 DO YOU WORK WITH CAPACITORS IN DC CIRCUITS	75	62	69	69	69	62	70	80	50	47	100
C	108	C1-17 DO YOU WORK WITH CAPACITORS IN AC CIRCUITS	83	62	66	67	63	59	70	60	56	53	100
C	109	C1-18 DO YOU WORK WITH CAPACITORS IN CIRCUITS WITH BOTH DC AND AC	67	62	57	58	56	51	50	60	39	35	100
C	110	C1-19 DO YOU WORK WITH CAPACITORS IN DON'T REMEMBER WHICH CIRCUITS	8	23	7	9	13	5	20	0	6	6	0
C	111	C1-20 DO YOU CALCULATE CAPACITANCE FOR PARTICULAR CAPACITORS USING FORMULAS	8	8	7	9	0	8	0	0	11	6	100
C	112	C1-21 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS DIRECTLY PROPORTIONAL TO THE DIELECTRIC CONSTANT	8	0	7	9	0	8	0	0	11	6	100
C	113	C1-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS INVERSELY PROPORTIONAL TO THE DIELECTRIC THICKNESS	17	8	7	9	0	5	0	0	11	6	100
C	114	C1-23 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES	25	15	11	13	6	11	0	20	17	12	100
C	115	C1-24 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN PARALLEL	25	15	11	13	6	11	0	20	17	12	100
C	116	C1-25 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES-PARALLEL CIRCUITS	25	15	11	13	6	11	0	20	17	12	100
C	117	C1-26 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT DOES NOT FLOW THROUGH CAPACITORS, IT ONLY APPEARS TO DO SO	25	23	16	18	13	19	10	0	11	6	100
C	118	C1-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LEADS VOLTAGE IN AC CAPACITOR CIRCUITS	17	23	15	16	13	11	20	0	11	6	100
C	119	C1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITIVE REACTANCE IS INVERSELY PROPORTIONAL TO FREQUENCY	17	8	15	16	13	11	20	0	11	6	100
C	120	C1-29 DO YOU CALCULATE CAPACITIVE REACTANCE	17	8	10	13	0	11	0	0	22	18	100

CAPACITORS AND CAPACITIVE REACTANCE

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 239	SPC 235	SPC 236	
C 121	C1-30	DO YOU WORK WITH ROTOR-STATOR (VARIABLE) CAPACITORS	67	31	28	31	19	22	20	20	39	35	100	
C 122	C1-31	DO YOU WORK WITH COMPRESSION (TRIMMER) CAPACITORS	33	38	20	20	19	16	10	20	22	18	100	
C 123	C1-32	DO YOU WORK WITH ELECTROLYTIC (FIXED) CAPACITORS	75	46	46	47	44	38	40	60	44	41	100	
C 124	C1-33	DO YOU WORK WITH PAPER (FIXED) CAPACITORS	58	54	31	31	31	24	30	40	44	41	100	
C 125	C1-34	DO YOU WORK WITH MICA (FIXED) CAPACITORS	58	54	34	36	31	27	40	20	50	47	100	
C 126	C1-35	DO YOU WORK WITH CERAMIC (FIXED) CAPACITORS	67	54	41	42	38	35	40	40	56	53	100	
C 127	C1-36	DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF CAPACITORS	25	23	21	20	25	22	30	20	17	18	0	
C 128	C2-01	DO YOU WORK WITH TRANSFORMERS IN YOUR PRESENT JOB	67	62	56	58	50	54	50	60	83	82	100	
C 129	C2-02	DO YOU INSPECT TRANSFORMERS	75	62	41	40	44	38	40	40	56	53	100	
C 130	C2-03	DO YOU CLEAN TRANSFORMERS	58	38	21	24	13	24	0	20	33	35	0	
C 131	C2-04	DO YOU ADJUST TRANSFORMERS	33	31	18	20	13	16	20	0	11	6	100	
C 132	C2-05	DO YOU TROUBLESHOOT TRANSFORMERS	58	46	36	38	31	35	40	20	67	65	100	
C 133	C2-06	DO YOU REMOVE OR REPLACE COMPLETE TRANSFORMERS	67	54	48	44	56	41	60	60	78	82	0	
C 134	C2-07	DO YOU REMOVE OR REPLACE TRANSFORMER PARTS, SUCH AS THE PRIMARY WINDING	8	8	2	2	0	3	0	0	0	0	0	TRANSFORMERS
C 135	C2-08	DO YOU MAKE A DISTINCTION BETWEEN MUTUAL INDUCTION AND MUTUAL INDUCTANCE (M)	8	15	5	7	0	5	0	0	11	6	100	
C 136	C2-09	DO YOU USE THE SYMBOL FOR MUTUAL INDUCTANCE, M	8	15	5	7	0	5	0	0	6	6	0	
C 137	C2-10	DO YOU REFER TO OR USE THE COEFFICIENT OF COUPLING WHEN WORKING WITH TRANSFORMERS	17	8	10	13	0	8	0	0	17	12	100	
C 138	C2-11	DO YOU CALCULATE TURNS RATIOS FOR TRANSFORMERS USING CURRENT OR VOLTAGE RATIOS	8	8	7	9	0	8	0	0	11	6	100	
C 139	C2-12	DO YOU REFER TO REFLECTED IMPEDANCE WHEN WORKING WITH TRANSFORMERS	17	0	5	7	0	5	0	0	11	6	100	
C 140	C2-13	DO YOU CALCULATE IMPEDANCE INTERACTIONS FOR TRANSFORMERS	17	8	5	7	0	5	0	0	11	6	100	
C 141	C2-14	DO YOU WORK WITH AUTOTRANSFORMERS	50	8	15	18	6	8	0	20	11	6	100	
C 142	C2-15	DO YOU WORK WITH POWER TRANSFORMERS	75	62	52	56	44	46	50	40	72	71	100	
C 143	C2-16	DO YOU WORK WITH AUDIO TRANSFORMERS	25	15	13	13	13	8	10	20	6	0	100	
C 144	C2-17	DO YOU WORK WITH RADIO FREQUENCY TRANSFORMERS	58	38	36	38	31	30	20	40	39	35	100	
C 145	C2-18	DO YOU WORK WITH DON'T REMEMBER WHAT TYPE OF TRANSFORMERS	25	8	13	11	19	11	30	0	17	18	0	
C 146	C2-19	DO YOU CHECK TRANSFORMERS FOR OPEN WINDINGS BY MEASURING RESISTANCE	58	62	51	47	63	43	70	60	50	47	100	
C 147	C2-20	DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING RESISTANCE	58	62	43	40	50	35	60	40	44	41	100	
C 148	C2-21	DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING OUTPUT VOLTAGES	58	54	41	40	44	35	50	40	44	47	0	
C 149	C2-22	DO YOU MEASURE RESISTANCE OF TRANSFORMER WINDINGS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO	33	15	20	18	25	16	30	20	11	6	100	
C 150	C2-23	DO YOU MEASURE OUTPUT VOLTAGE OF TRANSFORMERS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO	33	31	26	22	38	22	30	40	17	12	100	
C 151	C2-24	DO YOU REFER TO BASIC TRANSFORMER SCHEMATIC SYMBOLS FOR TRANSFORMERS	75	54	44	47	56	35	40	60	56	53	100	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
C 152	C2-25 DO YOU REFER TO MULTIPLE SECONDARY-WINDINGS SCHEMATIC SYMBOLS FOR TRANSFORMERS	67	54	41	40	44	32	50	20	44	41	100	
C 153	C2-26 DO YOU REFER TO MULTIPLE TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	75	62	44	44	44	35	60	20	44	41	100	
C 154	C2-27 DO YOU REFER TO CENTER TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	75	62	46	47	44	35	60	20	50	47	100	
C 155	C2-28 DO YOU REFER TO AIR CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	33	46	31	33	25	29	30	0	22	18	100	
C 156	C2-29 DO YOU REFER TO IRON CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	33	38	34	38	25	27	40	0	33	29	100	
C 157	C2-30 DO YOU REFER TO COMBINATIONS OF THE ABOVE SCHEMATIC SYMBOLS FOR TRANSFORMERS	50	54	38	33	50	24	60	20	28	24	100	
C 158	C2-31 DO YOU DETERMINE PHASE RELATIONSHIPS BETWEEN SECONDARY AND PRIMARY VOLTAGES OF TRANSFORMERS USING SCHEMATIC SYMBOLS	42	31	25	29	13	24	20	0	22	18	100	
C 159	C2-32 DO YOU DETERMINE OR REFER TO THE TYPE OF CORE IN TRANSFORMERS YOU WORK WITH	33	15	16	18	13	8	30	0	17	12	100	
C 160	C2-33 DO YOU REFER TO OR USE THE GENERAL RULE THAT THE TURNS RATIO OF A TRANSFORMER IS EQUAL TO THE VOLTAGE RATIO	33	31	11	13	6	11	10	0	17	12	100	
C 161	C2-34 DO YOU USE OR REFER TO STEP-UP OR STEP-DOWN RATIOS FOR TRANSFORMERS	42	31	25	27	19	19	30	0	22	18	100	
C 162	C2-35 DO YOU CALCULATE VOLTAGE RATIOS FOR TRANSFORMERS USING TURNS RATIOS	25	15	8	9	6	5	10	0	17	12	100	
C 163	C2-36 DO YOU CALCULATE CURRENT RATIOS FOR TRANSFORMERS USING TURNS RATIOS	17	15	7	7	6	3	10	0	17	12	100	
C 164	C2-37 DOES YOUR JOB INVOLVE ANY TASKS DEALING WITH THREE PHASE TRANSFORMERS	58	62	43	40	50	35	70	20	50	47	100	
C 165	C2-38 DO YOU INSPECT THREE PHASE TRANSFORMERS	67	46	30	27	38	27	30	40	39	35	100	
C 166	C2-39 DO YOU CLEAN OR LUBRICATE THREE PHASE TRANSFORMERS	42	31	10	11	6	11	0	0	22	24	0	
C 167	C2-40 DO YOU ADJUST THREE PHASE TRANSFORMERS	8	15	11	11	13	8	20	0	11	6	100	
C 168	C2-41 DO YOU TROUBLESHOOT THREE PHASE TRANSFORMERS	50	38	33	31	38	27	40	40	33	35	0	
C 169	C2-42 DO YOU REMOVE OR REPLACE COMPLETE THREE PHASE TRANSFORMERS	50	54	34	31	44	27	50	40	44	47	0	
C 170	C2-43 DO YOU REMOVE OR REPLACE THREE PHASE TRANSFORMER PARTS SUCH AS WINDINGS	8	8	0	0	0	0	0	0	0	0	0	
C 171	C3-01 DO YOU USE OR REFER TO PERMANENT MAGNETS	67	69	64	62	69	59	80	40	56	53	100	
C 172	C3-02 DO YOU USE OR REFER TO TEMPORARY MAGNETS	33	46	34	38	25	35	20	20	22	18	100	
C 173	C3-03 DO YOU USE OR REFER TO RETENTIVITY OF MAGNETIC MATERIALS	17	23	8	9	6	5	10	0	11	6	100	
C 174	C3-04 DO YOU USE OR REFER TO RELUCTANCE OF MAGNETIC MATERIALS	17	15	7	9	0	5	0	0	11	6	100	
C 175	C3-05 DO YOU USE OR REFER TO PERMEABILITY OF MAGNETIC MATERIALS	17	23	7	9	0	5	0	0	11	6	100	MAGNETISM
C 176	C3-06 DO YOU USE OR REFER TO RESIDUAL MAGNETISM	8	15	7	9	0	5	0	0	11	6	100	
C 177	C3-07 DO YOU USE OR REFER TO MAGNETIC LINES OF FORCE OR FLUX	42	23	26	31	13	22	20	0	17	12	100	
C 178	C3-08 DO YOU USE OR REFER TO WEBER'S THEORY OF MAGNETISM	17	15	3	9	0	3	0	0	6	6	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
C	179	C3-09 DO YOU USE OR REFER TO DOMAIN THEORY OF MAGNETISM	8	15	3	4	0	3	0	0	6	6	0	
C	180	C3-10 DO YOU USE OR REFER TO MAGNETIC INDUCTION	17	31	15	16	13	11	20	0	22	18	100	
C	181	C3-11 DO YOU USE OR REFER TO FLUX DENSITY	8	23	15	18	6	8	20	0	11	6	100	
C	182	C3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT FOR MAGNETIC POLES, LIKE POLES REPEL AND UNLIKE POLES ATTRACT	50	31	41	42	38	41	50	0	33	29	100	
C	183	C3-13 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE DIRECTION OF MAGNETIC FIELDS ABOUT STRAIGHT WIRES	17	8	8	7	13	3	20	0	11	6	100	
C	184	C3-14 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE NORTH POLE OF A CURRENT CARRYING COIL	17	8	8	9	6	5	10	0	11	6	100	
D	185	D1-01 DO YOU WORK WITH RC, LR, RCL CIRCUITS IN YOUR PRESENT JOB	33	46	33	29	44	19	60	0	39	35	100	
D	186	D1-02 DO YOU USE OR REFER TO VECTORS WHEN WORKING WITH RCL CIRCUITS	0	8	7	4	13	0	10	0	11	6	100	
D	187	D1-03 DO YOU USE OR REFER TO PYTHAGOREAN THEOREM WHEN WORKING WITH RCL CIRCUITS	0	0	5	4	6	0	0	0	11	6	100	RCL CIRCUITS
D	188	D1-04 DO YOU USE OR REFER TO SINE WHEN WORKING WITH RCL CIRCUITS	17	23	15	13	19	5	20	0	17	12	100	
D	189	D1-05 DO YOU USE OR REFER TO COSINE WHEN WORKING WITH RCL CIRCUITS	17	23	15	13	19	5	20	0	17	12	100	
D	190	D1-06 DO YOU USE OR REFER TO TANGENT WHEN WORKING WITH RCL CIRCUITS	17	8	11	11	13	5	10	0	17	12	100	
D	191	D1-07 DO YOU USE OR REFER TO WATTS WHEN WORKING WITH RCL CIRCUITS	25	38	20	20	19	16	20	0	22	18	100	
D	192	D1-08 DO YOU USE OR REFER TO TRUE POWER (PT) WHEN WORKING WITH RCL CIRCUITS	17	8	8	7	13	5	20	0	11	12	0	
D	193	D1-09 DO YOU USE OR REFER TO MAXIMUM POWER (PM) WHEN WORKING WITH RCL CIRCUITS	25	15	13	13	13	8	20	0	11	12	0	
D	194	D1-10 DO YOU USE OR REFER TO AVERAGE POWER (PAVE) WHEN WORKING WITH RCL CIRCUITS	25	8	13	13	13	8	20	0	17	12	100	
D	195	D1-11 DO YOU USE OR REFER TO APPARENT POWER (PA) WHEN WORKING WITH RCL CIRCUITS	0	8	10	9	13	5	10	0	11	12	0	
D	196	D1-12 DO YOU USE OR REFER TO POWER FACTOR (PF) WHEN WORKING WITH RCL CIRCUITS	8	8	10	9	13	5	10	0	17	18	0	
D	197	D1-13 DO YOU USE OR REFER TO RESONANT CIRCUITS WHEN WORKING WITH RCL CIRCUITS	25	46	30	27	38	14	50	0	28	24	100	
D	198	D1-14 DO YOU USE OR REFER TO BANDWIDTH WHEN WORKING WITH RCL CIRCUITS	33	38	28	24	38	11	50	0	28	24	100	
D	199	D1-15 DO YOU USE OR REFER TO SELECTIVITY WHEN WORKING WITH RCL CIRCUITS	17	31	25	20	38	8	50	0	28	24	100	
D	200	D1-16 DO YOU USE OR REFER TO RESONANT FREQUENCY WHEN WORKING WITH RCL CIRCUITS	25	46	30	27	38	14	50	0	28	24	100	
D	201	D1-17 DO YOU USE OR REFER TO HALF POWER POINTS WHEN WORKING WITH RCL CIRCUITS	8	15	10	9	13	3	20	0	28	24	100	
D	202	D1-18 DO YOU USE OR REFER TO BANDPASS REGION WHEN WORKING WITH RCL CIRCUITS	25	15	20	18	25	8	30	0	17	12	100	
D	203	D1-19 DO YOU USE OR REFER TO CIRCUIT Q WHEN WORKING WITH RCL CIRCUITS	17	15	11	9	19	3	20	0	22	18	100	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236
D 204	D1-20 DO YOU USE OR REFER TO TANK CIRCUITS WHEN WORKING WITH RCL CIRCUITS	33	38	25	24	25	16	30	0	22	18	100
D 205	D1-21 DO YOU DETERMINE VALUES OF TRIGONOMETRIC FUNCTIONS USING FORMULAS	0	8	3	4	0	0	0	0	11	6	100
D 206	D1-22 DO YOU DRAW VOLTAGE, CURRENT, OR IMPEDANCE VECTOR DIAGRAMS FOR CIRCUITS	0	8	2	2	0	0	0	0	6	0	100
D 207	D1-23 DO YOU CALCULATE TOTAL IMPEDANCE FOR CAPACITIVE CIRCUITS	8	15	3	4	0	3	0	0	17	12	100
D 208	D1-24 DO YOU CALCULATE PHASE ANGLES BETWEEN IMPEDANCE AND RESISTANCE IN CAPACITIVE CIRCUITS	0	8	2	2	0	0	0	0	11	6	100
D 209	D1-25 DO YOU CALCULATE TOTAL IMPEDANCE FOR SERIES RCL CIRCUITS	0	15	5	4	6	3	10	0	11	6	100
D 210	D1-26 DO YOU CALCULATE IMPEDANCE ANGLES FOR SERIES RCL CIRCUITS	0	15	2	2	0	0	0	0	11	6	100
D 211	D1-27 DO YOU CALCULATE APPARENT POWER (PA) FOR SERIES RCL CIRCUITS	0	15	3	2	6	0	10	0	6	6	0
D 212	D1-28 DO YOU CALCULATE TRUE POWER (PT) FOR SERIES RCL CIRCUITS	0	15	0	0	0	0	0	0	6	6	0
D 213	D1-29 DO YOU CALCULATE POWER FACTORS (PF) FOR SERIES RCL CIRCUITS	0	15	2	2	0	0	0	0	11	6	100
D 214	D1-30 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RCL CIRCUITS	0	15	3	2	6	0	10	0	11	6	100
D 215	D1-31 DO YOU CALCULATE IMPEDANCE ANGLES FOR PARALLEL RCL CIRCUITS	0	15	3	2	6	0	10	0	11	6	100
D 216	D1-32 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING THE ASSUMED VOLTAGE METHOD	0	15	0	0	0	0	0	0	11	6	100
D 217	D1-33 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING OHM'S LAW	8	15	5	4	6	3	10	0	11	6	100
D 218	D1-34 DO YOU CHECK CAPACITORS USING OHMMETERS	25	46	23	18	38	14	50	0	22	18	100
D 219	D1-35 DO YOU CHECK CAPACITORS USING SUBSTITUTION	33	38	16	16	19	11	20	0	17	18	0
D 220	D1-36 DO YOU CHECK INDUCTORS USING OHMMETERS	25	46	23	20	31	14	40	0	22	18	100
D 221	D1-37 DO YOU CHECK INDUCTORS USING SUBSTITUTION	33	38	16	16	19	11	20	0	11	12	0
D 222	D1-38 DO YOU USE OR REFER TO THE GENERAL RULE THAT THETA= 0, PF = 1, AND PA = PT FOR RESONANT CIRCUITS	0	0	2	2	0	3	0	0	0	0	0
D 223	D1-39 DO YOU CALCULATE RESONANT FREQUENCIES FOR RCL CIRCUITS	8	8	3	2	6	0	10	0	11	6	100
D 224	D1-40 DO YOU USE OR REFER TO THE GENERAL RULE THAT IMPEDANCE IS MINIMUM AND CURRENT MAXIMUM AT THE RESONANT FREQUENCY FOR SERIES RCL CIRCUITS	0	8	11	13	6	11	10	0	11	6	100
D 225	D1-41 DO YOU USE OR REFER TO THE GENERAL RULE THAT LINE CURRENT IS MINIMUM AND IMPEDANCE MAXIMUM AT RESONANT FREQUENCY FOR PARALLEL RCL CIRCUITS	8	8	8	9	6	5	10	0	11	6	100
D 226	D1-42 DO YOU USE OR REFER TO THE GENERAL RULE THAT HALF POWER POINTS ARE AT 70.7 PERCENT OF THE PEAK CURRENT VALUE	8	15	7	9	0	3	0	0	11	6	100
D 227	D1-43 DO YOU USE OR REFER TO THE GENERAL RULE THAT BANDWIDTH IS INVERSELY PROPORTIONAL TO Q	0	8	7	9	13	0	20	0	11	6	100
D 228	D1-44 DO YOU DETERMINE HOW CHANGES IN FREQUENCY, RESISTANCE, CAPACITANCE, OR INDUCTANCE WILL AFFECT CURRENT OR PHASE ANGLES FOR RCL CIRCUITS	0	8	5	9	6	3	10	0	11	6	100

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
D 229	D2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH, USE, OR REFER TO SERIES OR PARALLEL RESONANT CIRCUITS OR TIME CONSTANTS	17	8	26	24	31	22	30	20	22	18	100	SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)
D 230	D2-02 DO YOU WORK WITH, USE, OR REFER TO TIME CONSTANTS	17	8	25	22	31	16	30	20	11	6	100	
D 231	D2-03 DO YOU WORK WITH, USE, OR REFER TO AVAILABLE VOLTAGE	0	8	11	9	19	5	20	0	11	6	100	
D 232	D3-04 DO YOU WORK WITH, USE, OR REFER TO TRANSIENT INTERVALS	0	8	13	11	19	5	20	0	11	6	100	
D 233	D2-05 DO YOU USE OR REFER TO THE GENERAL RULE THAT A CAPACITOR IS FULLY CHARGED (OR DISCHARGED) AFTER FIVE (5) TIME CONSTANTS (TC)	17	8	16	13	25	8	30	20	11	6	100	
D 234	D2-06 DO YOU USE OR REFER TO UNIVERSAL TIME CONSTANT CHARTS	0	8	7	4	13	3	20	0	11	6	100	
D 235	D2-07 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CIRCUIT CURRENT OR COMPONENT VOLTAGES AFTER A SPECIFIC TIME FOR RC OR LR CIRCUITS	0	8	5	4	6	0	10	0	11	6	100	
D 236	D2-08 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE THE TIME REQUIRED FOR CIRCUIT CURRENT OR COMPONENT VOLTAGES TO REACH SPECIFIC VALUES FOR RC OR LR CIRCUITS	0	8	5	4	6	0	10	0	11	6	100	
D 237	D2-09 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE COMPONENT VALUES REQUIRED FOR CIRCUIT CURRENT AND COMPONENT VOLTAGES TO REACH SPECIFIC VALUES IN SPECIFIC TIMES	0	8	2	2	0	0	0	0	11	6	100	
D 238	D2-10 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT IN LR CIRCUITS REACHES ITS MINIMUM VALUE (OR ZERO) AFTER FIVE (5) TIME CONSTANTS	0	8	8	9	4	3	10	0	6	6	0	
D 239	D3-01 DO YOU WORK WITH CIRCUITS USED AS FILTERS IN YOUR PRESENT JOB	58	38	39	36	50	32	50	40	61	59	100	FILTERS
D 240	D3-02 DO YOU INSPECT FILTER CIRCUITS	58	38	28	24	38	22	40	20	44	41	100	
D 241	D3-03 DO YOU CLEAN FILTER CIRCUITS	58	38	13	13	13	11	0	20	28	29	0	
D 242	D3-04 DO YOU ALIGN OR ADJUST FILTER CIRCUITS	50	23	18	16	25	11	40	0	33	29	100	
D 243	D3-05 DO YOU TROUBLESHOOT TO THE FILTER CIRCUIT LEVEL	58	38	30	24	44	22	40	40	44	41	100	
D 244	D3-06 DO YOU TROUBLESHOOT TO COMPONENT PARTS	50	38	25	20	38	19	40	20	33	29	100	
D 245	D3-07 DO YOU REMOVE OR REPLACE THE COMPLETE FILTER CIRCUIT	50	38	28	24	38	22	40	20	44	47	0	
D 246	D3-08 DO YOU REMOVE OR REPLACE FILTER CIRCUIT COMPONENT PARTS	50	38	23	18	38	16	40	20	22	24	0	
D 247	D3-09 DO YOU WORK WITH LOW PASS FILTERS	42	23	26	24	31	22	40	20	28	24	100	
D 248	D3-10 DO YOU WORK WITH HIGH PASS FILTERS	42	23	25	22	31	19	40	20	28	24	100	
D 249	D3-11 DO YOU WORK WITH BANDPASS FILTERS	42	23	25	24	25	19	30	20	28	24	100	
D 250	D3-12 DO YOU WORK WITH BAND-REJECT FILTERS	33	23	25	24	25	19	30	20	28	24	100	
D 251	D3-13 DON'T REMEMBER WHICH TYPE OF FILTER YOU WORK WITH	25	23	16	16	19	14	10	20	22	24	0	
D 252	D3-14 DO YOU WORK WITH L-SECTION FILTER CONFIGURATION	33	31	21	20	25	11	40	0	17	12	100	
D 253	D3-15 DO YOU WORK WITH T-SECTION FILTER CONFIGURATION	33	31	20	18	25	8	40	0	17	12	100	
D 254	D3-16 DO YOU WORK WITH PI-SECTION FILTER CONFIGURATION	33	23	20	18	25	8	40	0	17	12	100	
D 255	D3-17 DON'T REMEMBER WHICH TYPE FILTER CONFIGURATION	25	23	25	24	25	27	10	40	39	41	0	
D 256	D3-18 DO THE FILTERS YOU WORK WITH USE PARALLEL RESONANT CIRCUITS	42	23	28	27	31	19	30	20	28	24	100	
D 257	D3-19 DO THE FILTERS YOU WORK WITH USE SERIES-PARALLEL CIRCUITS	42	31	28	27	31	19	30	20	28	24	100	
D 258	D3-20 DO THE FILTERS YOU WORK WITH USE SERIES RESONANT CIRCUITS	42	23	26	24	31	16	30	20	28	24	100	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
D 259	D3-21 DON'T REMEMBER WHICH TYPE OF BASIC CIRCUIT	25	23	18	18	19	16	20	20	22	24	0	
D 260	D3-22 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CAPACITANCE OR INDUCTANCE VALUES REQUIRED FOR SPECIFIC FILTERS	17	0	3	4	0	3	0	0	11	6	100	
E 261	E1-01 DO YOU WORK WITH COUPLING DEVICES IN YOUR PRESENT JOB	50	46	33	31	38	22	40	20	33	29	100	
E 262	E1-02 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH RC COUPLING	50	46	33	31	38	22	40	20	28	24	100	COUPLING
E 263	E1-03 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH IMPEDANCE COUPLING	50	46	30	29	31	19	30	20	28	24	100	
E 264	E1-04 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH TRANSFORMER COUPLING	42	46	31	29	38	19	40	20	28	24	100	
E 265	E1-05 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM RC COUPLING	50	46	28	24	38	19	40	20	17	12	100	
E 266	E1-06 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM IMPEDANCE COUPLING	50	38	25	24	25	19	20	20	22	18	100	
E 267	E1-07 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM TRANSFORMER COUPLING	50	46	28	24	38	19	40	20	17	12	100	
E 268	E1-08 DO YOU WORK WITH DIRECTLY COUPLED CIRCUITS	50	46	28	27	31	19	30	20	28	24	100	
E 269	E1-09 DO YOU WORK WITH CAPACITIVE-RESISTIVE COUPLED CIRCUITS	50	46	26	24	31	16	30	20	28	24	100	
E 270	E1-10 DO YOU WORK WITH CAPACITIVE-INDUCTIVE COUPLED CIRCUITS	50	38	26	24	31	16	30	20	28	24	100	
E 271	E1-11 DO YOU WORK WITH TRANSFORMER COUPLED CIRCUITS	50	46	26	24	31	16	30	20	28	24	100	
E 272	E1-12 DON'T REMEMBER WHICH TYPE OF COUPLING CIRCUITS	25	8	11	13	6	11	10	0	6	6	0	
E 273	E2-01 IN YOUR PRESENT JOB, DO YOU PERFORM SOLDERING TECHNIQUES OR INSPECT OR EVALUATE SOLDERED CONNECTIONS	83	85	79	76	88	81	90	80	72	76	0	
E 274	E2-02 DO YOU SELECT TYPE OF SOLDER TO USE	75	62	52	51	56	54	60	40	67	71	0	
E 275	E2-03 DO YOU ADD FLUX TO CONNECTIONS	58	77	61	58	69	59	80	40	78	82	0	
E 276	E2-04 DO YOU CLEAN CONNECTIONS USING SOLVENTS	75	62	69	62	88	65	100	60	39	41	0	SOLDERING
E 277	E2-05 DO YOU STRIP INSULATION FROM WIRES	83	85	79	73	94	78	100	80	78	82	0	
E 278	E2-06 DO YOU CONNECT OR DISCONNECT HEAT SINKS	67	54	59	58	63	59	70	40	61	65	0	
E 279	E2-07 DO YOU BEND OR SHAPE WIRES OR LEADS	83	77	77	71	94	76	100	80	67	71	0	
E 280	E2-08 DO YOU CUT WIRES	83	85	79	73	94	78	100	80	78	82	0	
E 281	E2-09 DO YOU FILE OR SHAPE SOLDERING IRON TIPS	67	62	61	60	63	65	60	60	61	65	0	
E 282	E2-10 DO YOU TIN SOLDERING IRON TIPS	83	85	74	69	88	73	100	60	72	76	0	
E 283	E2-11 DO YOU CLEAN SOLDERING IRON TIPS	83	85	74	69	88	73	100	60	72	76	0	
E 284	E2-12 DO YOU CLEAN ELECTRICAL SURFACES USING ERASERS	33	23	38	36	94	30	50	40	61	65	0	
E 285	E2-13 DO YOU TIN OR PRE-TIN CONDUCTORS	75	77	67	64	75	65	90	60	67	71	0	
E 286	E2-14 DO YOU INSPECT SOLDERED CONNECTIONS	83	77	74	71	81	76	90	60	78	82	0	
E 287	E2-15 DO YOU DESOLDER CONNECTIONS BY WICKING	42	54	44	44	44	46	50	20	56	59	0	
E 288	E2-16 DO YOU DESOLDER CONNECTIONS USING VACUUM DESOLDERING TOOLS	83	69	64	56	88	54	100	80	50	53	0	
E 289	E2-17 DO YOU CUT COMPONENT LEADS TO REMOVE COMPONENTS	58	62	48	40	69	43	70	40	56	59	0	
E 290	E2-18 DO YOU CRUSH COMPONENTS FOR REMOVAL	25	38	23	27	13	24	10	20	22	24	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
E 291	E2-19 DO YOU MAKE HARDWIRE CONNECTIONS	83	69	66	58	88	59	90	80	56	59	0	
E 292	E2-20 DO YOU MAKE PRINTED CIRCUIT BOARD CONNECTIONS	67	62	51	44	69	41	80	60	67	71	0	
E 293	E2-21 DO YOU SOLDER PASSIVE COMPONENTS SUCH AS RESISTORS OR CAPACITORS ON PRINTED CIRCUIT BOARDS	67	54	48	42	63	38	80	40	67	71	0	
E 294	E2-22 DO YOU SOLDER ACTIVE COMPONENTS SUCH AS SOLID-STATE DIODES OR TRANSISTORS ON PRINTED CIRCUIT BOARDS	67	54	48	42	63	38	80	40	56	59	0	
E 295	E3-01 DO YOU WORK WITH RELAYS ON YOUR PRESENT JOB	92	77	75	71	88	73	80	100	83	82	100	
E 296	E3-02 DO YOU ADJUST RELAYS	33	23	11	16	0	14	0	0	11	12	0	RELAYS
E 297	E3-03 DO YOU CLEAN RELAYS	42	46	26	29	19	27	20	20	33	35	0	
E 298	E3-04 DO YOU INSPECT RELAYS	67	54	54	53	56	54	50	60	56	59	0	
E 299	E3-05 DO YOU REMOVE OR REPLACE COMPLETE RELAYS	83	77	66	60	81	62	70	100	50	53	0	
E 300	E3-06 DO YOU REMOVE OR REPLACE PARTS OR RELAYS	8	23	8	9	6	8	0	20	6	6	0	
E 301	E3-07 DO YOU TROUBLESHOOT RELAYS	83	69	66	64	69	62	70	80	72	71	100	
E 302	E3-08 DO YOU STRAIGHTEN RELAY CONTACTS	42	46	16	20	6	22	10	0	28	29	0	
E 303	E3-09 DO YOU PERFORM TASKS ON RELAY CONTACTS	33	38	15	18	6	16	20	0	22	24	0	
E 304	E3-10 DO YOU PERFORM TASKS ON RELAY CORES	0	15	8	11	0	11	0	0	0	0	0	
E 305	E3-11 DO YOU PERFORM TASKS ON RELAY COILS	8	23	8	9	6	8	10	0	0	0	0	
E 306	E3-12 DO YOU PERFORM TASKS ON RELAY ARMATURES	0	15	8	11	0	11	0	0	0	0	0	
E 307	E3-13 DO YOU PERFORM TASKS ON RELAY SPRINGS	8	8	8	11	0	11	0	0	0	0	0	
E 308	E3-14 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY OPER (NO) SCHEMATIC SYMBOLS FOR RELAYS	75	69	57	60	50	59	90	60	61	59	100	
E 309	E3-15 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY CLOSED (NC) SCHEMATIC SYMBOLS FOR RELAYS	75	69	57	60	50	59	90	60	61	59	100	
E 310	E3-16 DO YOU USE OR REFER TO SINGLE POLE, DOUBLE THROW (SPDT) SCHEMATIC SYMBOLS FOR RELAYS	75	62	61	69	50	65	90	60	56	53	100	
E 311	E3-17 DO YOU USE OR REFER TO DOUBLE POLE, DOUBLE THROW (DPDT) SCHEMATIC SYMBOLS FOR RELAYS	75	69	59	60	56	59	90	80	56	53	100	
E 312	E3-18 DO YOU USE OR REFER TO OTHER RELAY SYMBOLS SCHEMATIC SYMBOLS FOR RELAYS	75	69	56	56	56	49	50	80	61	59	100	
E 313	E3-19 DO YOU CHECK ELECTRICAL CONTINUITY OF COILS BY MEASURING RESISTANCE	75	77	46	42	56	38	60	60	44	41	100	
F 314	F1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH MICROPHONES	0	0	5	4	6	3	10	0	6	6	0	
F 315	F1-02 DO YOU INSPECT MICROPHONES	0	0	2	2	0	0	0	0	0	0	0	
F 316	F1-03 DO YOU CLEAN MICROPHONES	0	0	2	2	0	0	0	0	0	0	0	
F 317	F1-04 DO YOU OPERATE MICROPHONES	0	0	5	4	6	3	10	0	0	0	0	MICROPHONES
F 318	F1-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OR MICROPHONES	0	0	2	2	0	0	0	0	0	0	0	
F 319	F1-06 DO YOU TROUBLESHOOT DOWN TO MICROPHONE PARTS	0	0	2	2	0	0	0	0	0	0	0	
F 320	F1-07 DO YOU REMOVE OR REPLACE COMPLETE MICROPHONES	0	0	2	2	0	0	0	0	0	0	0	
F 321	F1-08 DO YOU REMOVE OR REPLACE MICROPHONE PARTS	0	0	2	2	0	0	0	0	0	0	0	
F 322	F1-09 DO YOU PERFORM TASKS ON CARBON MICROPHONES	0	0	2	2	0	0	0	0	0	0	0	
F 323	F1-10 DO YOU PERFORM TASKS ON CAPACITOR MICROPHONES	0	0	2	2	0	0	0	0	0	0	0	
F 324	F1-11 DO YOU PERFORM TASKS ON CRYSTAL MICROPHONES	0	0	2	2	0	0	0	0	0	0	0	
F 325	F1-12 DO YOU PERFORM TASKS ON DYNAMIC MICROPHONES	0	0	2	2	0	0	0	0	0	0	0	
F 326	F1-13 DO YOU PERFORM TASKS ON VELOCITY RIBBON MICROPHONES	0	0	2	2	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
F	327	F2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH SPEAKERS	0	0	3	4	0	3	0	0	6	6	0	
F	328	F2-02 DO YOU INSPECT SPEAKERS	0	0	2	2	0	0	0	0	0	0	0	
F	329	F2-03 DO YOU CLEAN SPEAKERS	0	0	2	2	0	0	0	0	0	0	0	
F	330	F2-04 DO YOU OPERATE SPEAKERS	0	0	3	4	0	3	0	0	0	0	0	SPEAKERS
F	331	F2-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OF SPEAKERS	0	0	2	2	0	0	0	0	0	0	0	
F	332	F2-06 DO YOU TROUBLESHOOT DOWN TO SPEAKER PARTS	0	0	2	2	0	0	0	0	0	0	0	
F	333	F2-07 DO YOU REMOVE OR REPLACE COMPLETE SPEAKERS	0	0	2	2	0	0	0	0	0	0	0	
F	334	F2-08 DO YOU REMOVE OR REPLACE SPEAKER PARTS	0	0	2	2	0	0	0	0	0	0	0	
F	335	F2-09 DO YOU PERFORM ANY TASKS ON SPEAKER CONES	0	0	2	2	0	0	0	0	0	0	0	
F	336	F2-10 DO YOU PERFORM ANY TASKS ON SPEAKER SPIDERS	0	0	2	2	0	0	0	0	0	0	0	
F	337	F2-11 DO YOU PERFORM ANY TASKS ON SPEAKER FIELD COILS	0	0	2	2	0	0	0	0	0	0	0	
F	338	F2-12 DO YOU PERFORM ANY TASKS ON SPEAKER VOICE COILS	0	0	2	2	0	0	0	0	0	0	0	
F	339	F2-13 DO YOU PERFORM ANY TASKS ON SPEAKER PERMANENT MAGNETS	0	0	2	2	0	0	0	0	0	0	0	
F	340	F2-14 DO YOU PERFORM ANY TASKS ON SPEAKER ELECTROMAGNETS	0	0	2	2	0	0	0	0	0	0	0	
F	341	F2-15 DO YOU PERFORM ANY TASKS ON SPEAKER SOFT IRON CORES	0	0	2	2	0	0	0	0	0	0	0	
F	342	F3-01 DO YOU USE OSCILLOSCOPES IN YOUR PRESENT JOB	83	86	80	78	88	78	90	80	89	88	100	
F	343	F3-02 DO YOU USE OSCILLOSCOPES TO PERFORM OPERATIONAL CHECKS	75	69	67	69	75	65	80	60	83	82	100	
F	344	F3-03 DO YOU USE OSCILLOSCOPES TO PERFORM ALIGNMENTS OR ADJUSTMENTS	83	86	80	80	81	89	70	100	83	82	100	OSCILLOSCOPES
F	345	F3-04 DO YOU USE OSCILLOSCOPES TO TROUBLESHOOT ELECTRONIC CIRCUITS	83	69	69	67	75	65	80	60	89	88	100	
F	346	F3-05 DO YOU USE OSCILLOSCOPES TO MEASURE FREQUENCY	83	96	66	69	69	65	90	100	72	71	100	
F	347	F3-06 DO YOU USE OSCILLOSCOPES TO MEASURE TIME	50	96	96	92	56	38	90	60	78	76	100	
F	348	F3-07 DO YOU USE OSCILLOSCOPES TO OBSERVE LISAJOUS PATTERNS	33	96	28	27	31	30	30	0	28	29	100	
F	349	F3-08 DO YOU USE OSCILLOSCOPES TO OBSERVE SIGNALS WHILE UTILIZING ATTENUATOR PROBES	67	96	69	67	56	68	70	40	78	76	100	
F	350	F3-09 DO YOU USE OSCILLOSCOPES TO MAKE FREQUENCY OR TIME MEASUREMENTS USING DELAY TIME MULTIPLIERS	92	31	26	29	19	29	0	20	33	29	100	
F	351	F3-10 DO YOU USE OSCILLOSCOPES TO MEASURE AC VOLTAGE	67	77	72	69	81	68	80	80	78	76	100	
F	352	F3-11 DO YOU USE OSCILLOSCOPES TO MEASURE OR OBSERVE SIGNALS AFTER FIRST ADJUSTING THE GAIN AND DC BAL CONTROLS	75	96	93	94	38	91	50	20	67	65	100	
F	353	F3-12 DO YOU USE OSCILLOSCOPES TO MEASURE DC VOLTAGE	67	77	67	67	69	65	80	90	78	76	100	
G	354	G1-01 DO YOU WORK WITH SEMICONDUCTOR DIODES IN YOUR PRESENT JOB	67	54	59	51	81	93	80	100	61	59	100	
G	355	G1-02 DO YOU INSPECT DIODES	67	54	52	47	69	46	50	100	50	47	100	
G	356	G1-03 DO YOU REMOVE OR REPLACE DIODES	67	54	54	49	69	46	70	80	50	53	0	SEMICONDUCTOR DIODES
G	357	G1-04 DO YOU CHECK DIODES USING AN INSTRUMENT	67	54	52	49	63	43	60	80	50	47	100	
G	358	G1-05 DO YOU USE ENERGY LEVEL DIAGRAMS IN YOUR WORK WITH DIODES	8	8	7	9	0	8	0	0	0	0	0	
G	359	G1-06 DO YOU USE PN JUNCTION DIODE CHARACTERISTIC CURVES, TOGETHER WITH VALUES OF FORWARD AND REVERSE BIAS VOLTAGE, TO COMPUTE FORWARD OR REVERSE BIAS RESISTANCE	25	0	13	16	6	19	10	0	6	0	100	
G	360	G1-07 DO YOU COMPUTE FORWARD OR REVERSE BIAS RESISTANCE FOR DIODES	17	8	16	16	19	19	0	60	11	6	100	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236
G 361	G1-08 DO YOU USE OR REFER TO THE GENERAL RULE THAT TEMPERATURE CAN AFFECT THE OPERATION OF DIODES	58	38	38	36	44	24	50	40	28	24	100
G 362	G1-09 DO YOU IDENTIFY SEMICONDUCTOR DIODES AS OPPOSED TO OTHER ELECTRONIC COMPONENTS, SUCH AS RESISTORS, BASED ON THEIR PHYSICAL APPEARANCE	50	54	44	44	44	38	50	40	44	41	100
G 363	G1-10 DO YOU REFER TO OR DO YOU DETERMINE THE GENERAL EFFECTS OF DOPING ON CURRENT FLOW	8	31	15	18	6	14	10	0	11	6	100
G 364	G1-11 DO YOU USE OR REFER TO MEASUREMENTS OF FORWARD BIAS RESISTANCE	50	46	39	36	50	27	40	60	28	24	100
G 365	G1-12 DO YOU USE OR REFER TO DIODE COLOR CODING	17	15	26	22	38	16	30	40	22	18	100
G 366	G1-13 DO YOU USE OR REFER TO CENTRIFUGAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	8	0	5	7	0	5	0	0	0	0	0
G 367	G1-14 DO YOU USE OR REFER TO CENTRIPETAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	8	0	5	7	0	5	0	0	6	0	100
G 368	G1-15 DO YOU USE OR REFER TO DIODE NUMBERING SYSTEM, SUCH AS IN 538	58	46	41	38	50	30	60	40	22	18	100
G 369	G1-16 DO YOU USE OR REFER TO KINETIC ENERGY OF AN ELECTRON MOVING IN ORBIT	8	0	5	7	0	5	0	0	0	0	0
G 370	G1-17 DO YOU USE OR REFER TO POTENTIAL ENERGY OF AN ELECTRON MOVING IN ORBIT	8	0	5	7	0	5	0	0	6	0	100
G 371	G1-18 DO YOU USE OR REFER TO MEASUREMENTS OF REVERSE BIAS RESISTANCE	50	54	38	36	44	30	30	60	33	29	100
G 372	G1-19 DO YOU USE OR REFER TO NUMBER OF ELECTRONS IN A PARTICULAR SHELL OR ORBIT	8	0	7	9	0	5	0	0	6	0	100
G 373	G1-20 DO YOU USE OR REFER TO PERMISSIBLE ENERGY LEVELS OF AN ORBITING ELECTRON	8	0	5	7	0	5	0	0	6	0	100
G 374	G1-21 DO YOU USE OR REFER TO FORBIDDEN ENERGY LEVELS OF AN ORBITING ELECTRON	8	0	7	9	0	5	0	0	6	0	100
G 375	G1-22 DO YOU USE OR REFER TO VALENCE ELECTRONS (THOSE IN THE OUTERMOST SHELL)	8	0	7	9	0	5	0	0	6	0	100
G 376	G1-23 DO YOU USE OR REFER TO ATOMIC NUMBER (TOTAL NUMBER OF ELECTRONS IN ATOM)	8	0	5	7	0	5	0	0	6	0	100
G 377	G1-24 DO YOU USE OR REFER TO SYMBOLS ON THE DIODE WHICH INDICATE THE CATHODE END	58	54	43	44	38	35	40	40	39	35	100
G 378	G1-25 DO YOU NEED TO KNOW WHICH MATERIALS ARE USED IN THE CONSTRUCTION OF DIODES SUCH AS GERMANIUM OR SILICON	8	15	10	13	0	8	0	0	17	12	100
G 379	G1-26 DO YOU NEED TO KNOW THAT SEMICONDUCTORS HAVE NEGATIVE TEMPERATURE COEFFICIENTS OF RESISTANCE (AS TEMPERATURE INCREASES RESISTANCE DECREASES)	50	23	21	20	25	14	30	20	22	18	100
G 380	G1-27 DO YOU USE OR REFER TO PN JUNCTION DIODE CHARACTERISTIC CURVES, SUCH AS VOLTAGE - CURRENT CHARACTERISTIC CURVES (PERHAPS YOU DO THIS TO IDENTIFY POINTS OF STRUCTURAL BREAKDOWN OR OPERATING REGIONS)	25	8	10	9	13	5	20	0	6	0	100
G 381	G1-28 DO YOU DETERMINE WHETHER PN JUNCTION DIODES ARE FORWARD BIASED OR REVERSE BIASED WHEN YOU READ OR INTERPRET CIRCUIT DIAGRAMS	58	46	33	31	38	24	30	40	39	35	100
G 382	G1-29 DO YOU USE OR REFER TO VALENCE BAND IN SEMICONDUCTOR MATERIALS	8	15	8	9	6	5	10	0	6	0	100

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
G	383	G1-30 DO YOU USE OR REFER TO FORBIDDEN BAND IN SEMICONDUCTOR MATERIALS	8	15	5	7	0	3	0	0	6	0	100	
G	384	G1-31 DO YOU USE OR REFER TO CONDUCTION BAND IN SEMICONDUCTOR MATERIALS	8	8	10	11	6	5	10	0	6	0	100	
G	385	G1-32 DO YOU USE OR REFER TO COVALENT BONDING IN SEMICONDUCTOR MATERIALS	17	8	7	7	6	3	10	0	6	0	100	
G	386	G1-33 DO YOU USE OR REFER TO ELECTRON-HOLE PAIR CREATED IN SEMICONDUCTORS	8	0	5	7	0	3	0	0	6	0	100	
G	387	G1-34 DO YOU USE OR REFER TO ELECTRON FLOW OR HOLE FLOW IN SEMICONDUCTORS	8	0	8	9	6	5	10	0	6	0	100	
G	388	G1-35 DO YOU USE OR REFER TO DONOR IMPURITY IN SEMICONDUCTORS	8	0	5	7	0	3	0	0	6	0	100	
G	389	G1-36 DO YOU USE OR REFER TO ACCEPTOR IMPURITY IN SEMICONDUCTORS	8	0	5	7	0	3	0	0	6	0	100	
G	390	G1-37 DO YOU USE OR REFER TO P-TYPE SEMICONDUCTOR MATERIAL	25	15	18	20	13	16	20	0	11	6	100	
G	391	G1-38 DO YOU USE OR REFER TO N-TYPE SEMICONDUCTOR MATERIAL	25	15	18	20	13	16	20	0	11	6	100	
G	392	G1-39 DO YOU USE OR REFER TO MAJORITY CARRIERS IN SEMICONDUCTORS	8	8	5	7	0	3	0	0	6	0	100	
G	393	G1-40 DO YOU USE OR REFER TO MINORITY CARRIERS IN SEMICONDUCTORS	8	8	5	7	0	3	0	0	6	0	100	
G	394	G1-41 DO YOU USE OR REFER TO JUNCTION RECOMBINATION IN SEMICONDUCTORS	8	8	7	9	0	3	0	0	6	0	100	
G	395	G1-42 DO YOU USE OR REFER TO DEPLETION REGION IN SEMICONDUCTORS	8	8	8	9	6	3	10	0	6	0	100	
G	396	G1-43 DO YOU USE OR REFER TO RELATIONSHIP BETWEEN BARRIER WIDTH AND DIFFERENCE OF POTENTIAL	8	0	5	7	0	3	0	0	6	0	100	
G	397	G1-44 DO YOU USE OR REFER TO THE 10:1 BACK TO FRONT RESISTANCE RATIO FOR DIODES	33	23	20	22	13	19	10	20	28	29	100	
G	398	G1-45 DO YOU USE OR REFER TO BARRIER HEIGHT IN SEMICONDUCTORS	8	0	5	7	0	3	0	0	6	0	100	
G	399	G1-46 DO YOU USE OR REFER TO DIODE SUBSTITUTION INFORMATION	25	46	25	27	19	22	10	40	6	6	0	
G	400	G1-47 DO YOU USE OR REFER TO MAXIMUM AVERAGE FORWARD CURRENT DIODE RATINGS	8	8	8	9	6	5	10	0	11	6	100	
G	401	G1-48 DO YOU USE OR REFER TO PEAK RECURRENT FORWARD CURRENT DIODE RATINGS	8	8	8	9	6	5	10	0	6	6	0	
G	402	G1-49 DO YOU USE OR REFER TO MAXIMUM SURGE CURRENT DIODE RATINGS	8	8	10	11	6	8	10	0	11	6	100	
G	403	G1-50 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE DIODE RATINGS	33	8	15	18	6	19	10	0	11	6	100	
G	404	G2-01 DO YOU WORK WITH TRANSISTORS IN YOUR PRESENT JOB.	67	54	54	53	56	46	70	40	72	71	100	
G	405	G2-02 DO YOU INSPECT TRANSISTORS	67	54	46	42	56	41	50	60	61	59	100	
G	406	G2-03 DO YOU REMOVE OR REPLACE TRANSISTORS	67	54	46	42	56	38	60	60	61	65	0	
G	407	G2-04 DO YOU CHECK TRANSISTORS USING AN INSTRUMENT	67	54	43	40	50	32	50	60	50	47	100	TRANSISTORS
G	408	G2-05 DO YOU USE OR REFER TO EMITTER - BASE (EB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	50	54	36	33	44	27	30	60	44	41	100	
G	409	G2-06 DO YOU USE OR REFER TO COLLECTOR - BASE (CB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	50	54	39	38	44	30	30	60	44	41	100	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
G 410	G2-07 DO YOU USE OR REFER TO EMITTER - COLLECTOR (EC) RESISTANCE MEASUREMENTS	50	54	41	40	44	32	30	60	44	41	100	
G 411	G2-08 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE EMITTER - BASE JUNCTION	33	31	11	16	0	11	0	0	17	12	100	
G 412	G2-09 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE COLLECTOR - BASE JUNCTION	17	31	13	18	0	19	0	0	17	12	100	
G 413	G2-10 DO YOU USE OR REFER TO THE PHYSICAL SIZE OF THE TRANSISTOR STRUCTURE (COLLECTOR, BASE AND EMITTER)	33	46	21	22	19	22	10	40	39	35	100	
G 414	G2-11 DO YOU USE OR REFER TO LEAKAGE CURRENT (ICBO) IN A TRANSISTOR	17	8	13	16	6	14	0	0	22	18	100	
G 415	G2-12 DO YOU USE OR REFER TO TRANSISTOR SCHEMATIC SYMBOLS	67	54	48	47	50	38	60	40	56	53	100	
G 416	G2-13 DO YOU USE OR REFER TO TRANSISTOR NOTATION SUCH AS Q1, Q2, Q3, ETC	67	46	51	51	50	43	60	40	61	59	100	
G 417	G2-14 DO YOU USE OR REFER TO TRANSISTOR SUBSTITUTION INFORMATION	33	54	26	29	19	24	20	20	22	24	0	
G 418	G2-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE TRANSISTOR BASE CURRENT IB IS NORMALLY SIGNIFICANTLY SMALLER THAN THE EMITTER CURRENT IE (USUALLY IB BEING 2 TO 8 PERCENT OF IE)	17	15	11	11	13	5	20	0	11	6	100	
G 419	G2-16 DO YOU USE THE INFORMATION THAT THE EFFECT OF EMITTER BASE VOLTAGE ON BASE CURRENT IS THE CONTROLLING FACTOR FOR TRANSISTORS	42	46	21	22	19	16	30	0	17	12	100	
G 420	G2-17 DO YOU USE THE GENERAL RULE THAT LEAKAGE CURRENT (ICBO) IN A TRANSISTOR INCREASES AS TEMPERATURE INCREASES	8	15	16	18	13	14	10	20	6	0	100	
G 421	G2-18 DO YOU USE OR REFER TO TRANSISTOR CHARACTERISTIC CURVES	17	8	10	13	0	8	0	0	6	0	100	
G 422	G2-19 DO YOU USE OR REFER TO BETA TRANSISTOR GAINS	8	8	8	11	0	8	0	0	11	6	100	
G 423	G2-20 DO YOU USE OR REFER TO ALPHA TRANSISTOR GAINS	8	8	8	11	0	8	0	0	11	6	100	
G 424	G2-21 DO YOU USE OR REFER TO GAMMA TRANSISTOR GAINS	8	8	8	11	0	8	0	0	11	6	100	
G 425	G2-22 DO YOU CALCULATE BETA TRANSISTOR GAINS	0	8	8	11	0	8	0	0	11	6	100	
G 426	G2-23 DO YOU CALCULATE ALPHA TRANSISTOR GAINS	0	8	8	11	0	8	0	0	11	6	100	
G 427	G2-24 DO YOU CALCULATE GAMMA TRANSISTOR GAINS	0	8	8	11	0	8	0	0	11	6	100	
G 428	G3-01 DO YOU WORK WITH TRANSISTOR AMPLIFIERS IN YOUR PRESENT JOB	42	38	33	29	44	22	50	20	39	35	100	
G 429	G3-02 DO YOU INSPECT TRANSISTOR AMPLIFIERS	42	38	25	22	31	19	30	20	28	24	100	
G 430	G3-03 DO YOU ALIGN OR ADJUST TRANSISTOR AMPLIFIERS	42	38	23	22	25	19	30	0	28	24	100	TRANSISTOR AMPLIFIERS
G 431	G3-04 DO YOU TROUBLESHOOT TO THE AMPLIFIER CIRCUIT LEVEL	42	38	21	18	31	19	30	20	28	24	100	
G 432	G3-05 DO YOU TROUBLESHOOT TO AMPLIFIER COMPONENTS	42	38	18	13	31	8	30	20	22	18	100	
G 433	G3-06 DO YOU REMOVE OR REPLACE THE COMPLETE AMPLIFIER	25	38	26	22	38	19	90	20	22	24	0	
G 434	G3-07 DO YOU REMOVE OR REPLACE AMPLIFIER COMPONENTS	42	38	18	13	31	8	30	20	17	18	0	
G 435	G3-08 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A CHANGE IN BASE CURRENT	25	15	10	9	13	5	10	0	6	0	100	
G 436	G3-09 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT	17	8	3	9	0	3	0	0	6	0	100	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236
G 437	G3-10 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A CHANGE IN BASE CURRENT	25	23	10	9	13	5	10	0	6	0	100
G 438	G3-11 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT	0	8	5	4	6	3	10	0	6	0	100
G 439	G3-12 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN BASE CURRENT WHICH RESULTS FROM AN INPUT SIGNAL	17	8	15	13	19	8	30	0	11	6	100
G 440	G3-13 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN BASE CURRENT WHICH RESULTS FROM A SPECIFIC INPUT SIGNAL	8	15	5	4	6	3	10	0	6	0	100
G 441	G3-14 DO YOU USE THE LOAD-LINE METHOD OF ANALYSIS IN YOUR CIRCUIT ANALYSIS (THIS METHOD REQUIRES YOU TO PLOT A LOAD-LINE ON A TRANSISTOR CHARACTERISTIC CURVE)	0	0	5	7	0	3	0	0	6	0	100
G 442	G3-15 DO YOU USE OR REFER TO THE OPERATING POINT Q (QUIESCENT POINT) FOR A TRANSISTOR	8	0	11	11	13	8	20	0	6	0	100
G 443	G3-16 DO YOU CALCULATE THE SPECIFIC QUIESCENT POINT FOR A PARTICULAR TRANSISTOR	8	0	3	4	0	3	0	0	6	0	100
G 444	G3-17 DO YOU MEASURE VOLTAGE GAIN USED IN THE COMMON EMITTER CONFIGURATION	17	31	20	18	25	14	20	20	17	12	100
G 445	G3-18 DO YOU MEASURE CURRENT GAIN USED IN THE COMMON EMITTER CONFIGURATION	17	23	15	11	25	5	20	20	17	12	100
G 446	G3-19 DO YOU MEASURE POWER GAIN USED IN THE COMMON EMITTER CONFIGURATION	8	23	11	11	13	5	10	0	17	12	100
G 447	G3-20 DO YOU CALCULATE THE VOLTAGE GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE-EMITTER VOLTAGE INTO THE CHANGE THE BASE COLLECTOR VOLTAGE TO DETERMINE THE VOLTAGE GAIN	0	23	7	7	6	3	10	0	6	0	100
G 448	G3-21 DO YOU CALCULATE THE CURRENT GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE CURRENT INTO THE CHANGE IN COLLECTOR CURRENT TO DETERMINE THE CURRENT GAIN	0	23	7	7	6	3	10	0	6	0	100
G 449	G3-22 DO YOU CALCULATE THE POWER GAIN FOR A SPECIFIC TRANSISTOR USING A FORMULA THAT IS, DO YOU MULTIPLY THE CURRENT GAIN TIMES THE VOLTAGE GAIN TO DETERMINE THE POWER GAIN	0	23	3	4	0	3	0	0	6	0	100
G 450	G3-23 DO YOU NEED TO KNOW THAT MORE COLLECTOR CURRENT IS GENERATED WITH LESS COLLECTOR VOLTAGE AS TEMPERATURE INCREASES (THIS AFFECTS THE STATIC OPERATING POINT [Q] OF THE TRANSISTOR)	8	8	7	9	0	5	0	0	6	0	100
G 451	G3-24 DO YOU COMPUTE THE STATIC OPERATING POINT [Q] OF A TRANSISTOR AT DIFFERENT TEMPERATURES	0	8	3	4	0	3	0	0	6	0	100
G 452	G3-25 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH EMITTER (SWAMPING) RESISTOR STABILIZATION	17	23	20	16	31	8	30	20	11	6	100
G 453	G3-26 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH SELF-BIAS STABILIZATION	17	23	13	9	25	3	30	0	6	0	100

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236
G	454	G3-27 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH THERMISTOR STABILIZATION	17	15	15	13	19	5	20	0	6	0	100
G	455	G3-28 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH FORWARD BIAS DIODE STABILIZATION	25	23	16	13	25	5	30	0	11	6	100
G	456	G3-29 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH REVERSE BIAS DIODE STABILIZATION	25	23	16	13	25	5	30	0	11	6	100
G	457	G3-30 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH DOUBLE DIODE STABILIZATION	17	23	15	11	25	3	30	0	6	0	100
G	458	G3-31 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM EMITTER (SWAMPING) RESISTOR STABILIZATION	17	31	21	18	31	19	30	20	6	0	100
G	459	G3-32 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM SELF-BIAS STABILIZATION	17	23	18	13	31	8	30	20	6	0	100
G	460	G3-33 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THERMISTOR STABILIZATION	17	15	18	16	25	11	20	20	6	0	100
G	461	G3-34 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM FORWARD BIAS DIODE STABILIZATION	25	31	20	16	31	11	30	20	11	6	100
G	462	G3-35 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM REVERSE BIAS DIODE STABILIZATION	25	31	20	16	31	11	30	20	11	6	100
G	463	G3-36 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM DOUBLE DIODE STABILIZATION	17	23	18	13	31	8	30	20	6	0	100
G	464	G3-37 DO YOU IDENTIFY AMPLITUDE DISTORTION FOR TRANSISTOR CIRCUITS	17	31	20	20	19	19	10	20	11	6	100
G	465	G3-38 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF AMPLITUDE DISTORTION	33	38	18	16	25	19	20	20	6	0	100
G	466	G3-39 DO YOU IDENTIFY FREQUENCY DISTORTION FOR TRANSISTOR CIRCUITS	17	31	18	16	25	11	20	20	6	0	100
G	467	G3-40 DO YOU IDENTIFY PHASE DISTORTION FOR TRANSISTOR CIRCUITS	8	23	16	16	19	11	20	0	6	0	100
G	468	G3-41 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF PHASE DISTORTION	0	23	15	13	19	11	20	0	6	0	100
G	469	G3-42 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF FREQUENCY DISTORTION	25	31	16	13	25	11	20	20	6	0	100
G	470	G3-43 DO YOU NEED TO KNOW THE DEGENERATIVE EFFECTS ON THE CIRCUIT CAUSED BY CHANGING EMITTER RESISTANCE FOR TRANSISTOR AMPLIFIERS IN THE COMMON COLLECTOR CONFIGURATION	8	8	11	9	19	3	20	20	6	0	100
G	471	G3-44 DO YOU DETERMINE THE CLASS OF OPERATION FOR AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	8	23	10	9	13	6	10	0	6	0	100
G	472	G3-45 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	17	31	16	16	19	11	10	20	0	0	0
G	473	G3-46 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	42	38	23	18	38	19	40	20	6	0	100
G	474	G3-47 DO YOU TROUBLESHOOT OR REPAIR COMPLEMENTARY SYMMETRY CIRCUITS	25	31	18	16	25	11	30	0	6	0	100
G	475	G3-48 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	25	31	16	16	19	11	20	0	11	6	100

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
G 476	G3-49 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	33	31	21	16	38	11	40	20	11	6	100	
H 477	H1-01 DO YOU USE OR REFER TO VARACTORS	17	23	23	24	19	19	20	0	6	0	100	SOLID-STATE SPECIAL PURPOSE DEVICES
H 478	H1-02 DO YOU USE OR REFER TO TUNNEL DIODES	17	0	21	22	19	14	20	0	6	0	100	
H 479	H1-03 DO YOU USE OR REFER TO FIELD EFFECT TRANSISTORS (FET)	50	31	43	40	50	32	50	40	17	12	100	
H 480	H1-04 DO YOU USE OR REFER TO UNIJUNCTION TRANSISTORS	42	23	48	44	56	35	60	40	6	0	100	
H 481	H1-05 DO YOU USE OR REFER TO ZENER DIODES	83	69	62	62	63	51	70	60	39	35	100	
H 482	H1-06 DO YOU USE OR REFER TO INTEGRATED CIRCUITS	75	69	64	64	63	54	70	60	56	53	100	
H 483	H2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH POWER SUPPLIES	75	85	72	73	69	73	60	80	94	94	100	
H 484	H2-02 DO YOU INSPECT POWER SUPPLIES	75	85	62	60	69	65	50	80	78	76	100	
H 485	H2-03 DO YOU CLEAN POWER SUPPLIES	50	54	33	36	25	32	10	40	56	59	0	
H 486	H2-04 DO YOU ALIGN OR ADJUST POWER SUPPLIES	75	85	93	92	94	91	90	90	83	82	100	
H 487	H2-05 DO YOU TROUBLESHOOT TO POWER SUPPLY CIRCUIT LEVEL	58	62	51	49	56	46	60	60	67	71	0	
H 488	H2-06 DO YOU TROUBLESHOOT TO POWER SUPPLY COMPONENTS	67	69	93	94	38	93	50	0	56	59	0	POWER SUPPLIES
H 489	H2-07 DO YOU REMOVE OR REPLACE COMPLETE POWER SUPPLIES	67	77	64	62	69	65	70	60	89	94	0	
H 490	H2-08 DO YOU REMOVE OR REPLACE POWER SUPPLY COMPONENTS	58	69	91	94	31	93	90	0	61	65	0	
H 491	H2-09 DO YOU WORK WITH HALF-WAVE RECTIFIERS	50	96	94	94	94	35	60	20	50	47	100	
H 492	H2-10 DO YOU WORK WITH FULL-WAVE RECTIFIERS OTHER THAN BRIDGE RECTIFIERS	50	96	98	97	50	38	70	20	39	35	100	
H 493	H2-11 DO YOU WORK WITH BRIDGE RECTIFIERS	50	54	49	51	94	93	50	40	39	35	100	
H 494	H2-12 DO YOU WORK WITH THREE-PHASE RECTIFIERS	92	54	54	53	56	49	70	40	44	47	0	
H 495	H2-13 DO YOU USE OR REFER TO INPUT VOLTAGE	67	62	52	51	56	93	70	40	50	47	100	
H 496	H2-14 DO YOU USE OR REFER TO INPUT FREQUENCY	67	38	48	47	50	38	70	20	39	35	100	
H 497	H2-15 DO YOU USE OR REFER TO PEAK OUTPUT VOLTAGE	58	38	98	49	94	91	60	20	39	35	100	
H 498	H2-16 DO YOU USE OR REFER TO AVERAGE OUTPUT VOLTAGE	67	38	98	97	50	91	60	20	39	35	100	
H 499	H2-17 DO YOU USE OR REFER TO RIPPLE AMPLITUDE	58	62	94	94	94	35	50	40	44	41	100	
H 500	H2-18 DO YOU USE OR REFER TO RIPPLE FREQUENCY	50	96	38	92	25	32	90	20	39	35	100	
H 501	H2-19 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE	25	23	33	38	19	27	30	20	39	35	100	
H 502	H2-20 DO YOU USE OR REFER TO SHAPE OF OUTPUT WAVEFORMS	58	54	94	97	38	38	90	40	44	41	100	
H 503	H2-21 DO YOU USE OR REFER TO EFFECTIVE OUTPUT VOLTAGE	92	62	93	94	38	38	50	20	39	35	100	
H 504	H2-22 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE FILTERS	50	54	46	53	31	49	40	20	28	24	100	
H 505	H2-23 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE FILTERS	50	96	96	94	38	93	50	20	39	35	100	
H 506	H2-24 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE INPUT L-TYPE FILTERS	50	96	93	94	25	93	90	20	11	6	100	
H 507	H2-25 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE INPUT L-TYPE FILTERS	50	96	94	94	31	93	50	20	11	6	100	
H 508	H2-26 DO YOU WORK WITH CIRCUITS WHICH EMPLOY LC PI-TYPE FILTERS	92	38	93	94	25	93	90	20	17	12	100	
H 509	H2-27 DO YOU WORK WITH CIRCUITS WHICH EMPLOY RC PI-TYPE FILTERS	92	96	93	94	25	93	90	20	11	12	0	
H 510	H2-28 DO YOU WORK WITH CIRCUITS WHICH EMPLOY DON'T REMEMBER WHICH TYPE OF FILTER	33	31	25	24	25	22	20	20	28	29	0	
H 511	H2-29 DO YOU HAVE THE OPTION OF REPLACING ONE TYPE OF FILTER WITH A DIFFERENT TYPE FILTER	8	0	7	7	6	5	10	0	11	12	0	
H 512	H3-01 DO YOU WORK WITH OSCILLATORS IN YOUR PRESENT JOB	33	23	94	94	94	38	50	40	56	53	100	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
M	513	H3-02 DO YOU INSPECT OSCILLATORS	33	23	38	38	38	35	40	20	39	35	100	
M	514	H3-03 DO YOU ALIGN OR ADJUST OSCILLATORS	33	23	38	40	31	38	40	0	50	47	100	OSCILLATORS
M	515	H3-04 DO YOU REMOVE OR REPLACE COMPLETE OSCILLATORS	42	23	41	38	50	32	60	40	33	35	0	
M	516	H3-05 DO YOU REMOVE OR REPLACE OSCILLATOR COMPONENTS	17	8	30	29	31	27	40	0	11	12	0	
M	517	H3-06 DO YOU TROUBLESHOOT TO OSCILLATOR CIRCUIT LEVEL	25	23	36	33	44	27	50	40	33	29	100	
M	518	H3-07 DO YOU TROUBLESHOOT TO OSCILLATOR COMPONENTS	17	8	30	29	31	27	40	0	17	12	100	
M	519	H3-08 DO YOU USE OR REFER TO FEEDBACK	8	8	36	38	31	30	50	0	33	29	100	
M	520	H3-09 DO YOU USE OR REFER TO FREQUENCY DETERMINING DEVICES (FDD)	8	8	36	36	38	30	40	20	28	24	100	
M	521	H3-10 DO YOU USE OR REFER TO AMPLITUDE STABILITY	8	8	33	33	31	27	40	0	22	18	100	
M	522	H3-11 DO YOU USE OR REFER TO FREQUENCY STABILITY	8	23	34	33	38	27	40	20	22	18	100	
M	523	H3-12 DO YOU USE OR REFER TO DAMPING	17	8	25	27	19	16	30	0	17	12	100	
M	524	H3-13 DO YOU USE OR REFER TO REGENERATIVE FEEDBACK	8	8	36	36	38	30	40	20	28	24	100	
M	525	H3-14 DO YOU USE OR REFER TO PIEZOELECTRIC EFFECT	8	8	16	18	13	14	10	0	11	6	100	
M	526	H3-15 DO YOU USE OR REFER TO CRITICAL DAMPING	8	8	16	18	13	11	20	0	6	6	0	
M	527	H3-16 DO YOU USE OR REFER TO UNDER DAMPING	8	8	16	18	13	11	20	0	6	6	0	
M	528	H3-17 DO YOU USE OR REFER TO OVER DAMPING	8	8	16	18	13	11	20	0	6	6	0	
M	529	H3-18 DO YOU WORK WITH OSCILLATORS WHICH USE LC TANK CIRCUITS AS FDD	17	15	34	36	31	27	40	20	22	18	100	
M	530	H3-19 DO YOU WORK WITH OSCILLATORS WHICH USE RC NETWORKS AS FDD	25	15	39	40	38	35	50	20	28	24	100	
M	531	H3-20 DO YOU WORK WITH OSCILLATORS WHICH USE CRYSTALS AS FDD	17	23	44	47	34	41	50	20	39	35	100	
M	532	H3-21 DO YOU WORK WITH OSCILLATORS WHICH USE DON'T REMEMBER WHICH TYPE OF FDD	8	0	13	11	19	8	20	20	6	6	0	
M	533	H3-22 DO YOU WORK WITH SERIES HARTLEY SINUSOIDAL OSCILLATORS	25	8	20	20	19	19	20	20	6	0	100	
M	534	H3-23 DO YOU WORK WITH SHUNT HARTLEY SINUSOIDAL OSCILLATORS	25	8	21	22	19	16	20	20	6	0	100	
M	535	H3-24 DO YOU WORK WITH COLPITTS SINUSOIDAL OSCILLATORS	25	8	21	24	13	19	10	20	6	0	100	
M	536	H3-25 DO YOU WORK WITH CLAPP SINUSOIDAL OSCILLATORS	17	8	13	18	0	14	0	0	0	0	0	
M	537	H3-26 DO YOU WORK WITH BUTLER SINUSOIDAL OSCILLATORS	17	8	11	16	0	11	0	0	0	0	0	
M	538	H3-27 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF OSCILLATORS	8	0	28	27	31	24	40	20	39	41	0	
I	539	I1-01 DO YOU WORK WITH MULTIVIBRATORS IN YOUR PRESENT JOB	50	46	41	40	44	30	50	40	33	29	100	
I	540	I1-02 DO YOU INSPECT WAVE GENERATING OR SHAPING CIRCUITS	42	38	28	27	31	22	30	20	17	12	100	
I	541	I1-03 DO YOU ALIGN OR ADJUST WAVE GENERATING OR SHAPING CIRCUITS	50	31	25	20	38	16	40	40	22	18	100	MULTIVIBRATORS
I	542	I1-04 DO YOU CALIBRATE WAVE GENERATING OR SHAPING CIRCUITS	25	15	21	20	25	16	30	20	11	6	100	
I	543	I1-05 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUITS	50	46	31	29	38	24	30	40	17	12	100	
I	544	I1-06 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUIT COMPONENTS	42	46	28	27	31	22	30	20	17	12	100	
I	545	I1-07 DO YOU REMOVE OR REPLACE COMPLETE WAVE GENERATING OR SHAPING CIRCUITS	33	46	33	33	31	27	40	20	17	18	0	
I	546	I1-08 DO YOU REMOVE OR REPLACE WAVE GENERATING OR SHAPING COMPONENTS	42	46	28	27	31	22	30	20	11	12	0	
I	547	I1-09 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN LC TANK CIRCUITS	33	46	30	33	19	24	30	20	17	12	100	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
I 548	11-10 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN RC NETWORKS	25	38	30	33	19	24	30	20	17	12	100	
I 549	11-11 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN CRYSTALS	17	46	26	29	19	19	30	20	11	6	100	
I 550	11-12 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN DON'T REMEMBER WHICH TYPE OF FDD	8	8	16	13	25	8	20	20	11	12	0	
I 551	11-13 DO YOU WORK WITH ASTABLE MULTIVIBRATORS	25	31	25	24	25	14	30	20	22	18	100	
I 552	11-14 DO YOU WORK WITH MONOSTABLE MULTIVIBRATORS	33	31	28	29	25	19	30	20	22	18	100	
I 553	11-15 DO YOU WORK WITH BISTABLE MULTIVIBRATORS	33	38	26	27	25	16	30	20	22	18	100	
I 554	11-16 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE MULTIVIBRATORS	25	15	18	18	19	16	10	20	6	6	0	
I 555	12-01 DO YOU WORK WITH LIMITERS OR CLAMPERS IN YOUR PRESENT JOB	25	31	38	38	38	30	40	40	28	24	100	
I 556	12-02 DO YOU WORK WITH SERIES DIODE LIMITERS	25	31	28	29	25	22	20	20	17	12	100	LIMITERS AND CLAMPERS
I 557	12-03 DO YOU WORK WITH SHUNT DIODE LIMITERS	25	31	23	24	19	16	10	20	11	6	100	
I 558	12-04 DO YOU WORK WITH LIMITERS WITH BIAS	25	23	25	27	19	19	20	20	11	6	100	
I 559	12-05 DO YOU WORK WITH ZENER DIODE LIMITERS	25	31	26	27	25	22	20	20	17	12	100	
I 560	12-06 DO YOU WORK WITH TRANSISTOR LIMITERS	25	15	26	27	25	22	20	20	17	12	100	
I 561	12-07 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF LIMITERS	8	8	13	13	13	8	20	20	11	12	0	
I 562	12-08 DO YOU WORK WITH BASIC DIODE CLAMPING CIRCUITS	17	31	21	24	13	19	10	20	22	18	100	
I 563	12-09 DO YOU WORK WITH DIODE CLAMPING CIRCUITS WITH BIAS	17	15	20	24	6	19	10	0	17	12	100	
I 564	12-10 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF CLAMPING CIRCUIT	0	8	16	13	25	11	30	20	6	6	0	
I 565	13-01 IN YOUR PRESENT JOB, DO YOU WORK ON EQUIPMENT WHICH CONTAINS ELECTRON TUBES	75	69	31	29	38	19	50	20	11	6	100	
I 566	13-02 DO YOU CHECK ELECTRON TUBES TO SEE IF THEY ARE GOOD	58	38	28	24	38	14	50	20	11	6	100	
I 567	13-03 DO YOU USE TUBE TESTERS TO CHECK ELECTRON TUBES	25	0	5	4	6	0	10	0	6	0	100	
I 568	13-04 DO YOU USE MULTIMETERS TO CHECK ELECTRON TUBES	42	0	13	11	19	5	20	0	11	6	100	ELECTRON TUBES
I 569	13-05 DO YOU USE SCOPES TO CHECK ELECTRON TUBES	33	38	15	13	19	5	20	0	6	0	100	
I 570	13-06 DO YOU USE SUBSTITUTION TO CHECK ELECTRON TUBES	58	46	28	24	38	16	50	20	11	6	100	
I 571	13-07 DO YOU USE OR REFER TO CUTOFF	25	8	15	13	19	5	20	0	6	0	100	
I 572	13-08 DO YOU USE OR REFER TO PEAK INVERSE VOLTAGE RATING	25	0	11	11	13	3	20	0	6	6	0	
I 573	13-09 DO YOU USE OR REFER TO PEAK CURRENT RATING	25	0	8	7	13	0	20	0	6	0	100	
I 574	13-10 DO YOU USE OR REFER TO TRANSIT TIME	17	8	8	7	13	3	20	0	6	0	100	
I 575	13-11 DO YOU USE OR REFER TO PLATE DISSIPATION RATING	17	8	8	7	13	3	20	0	6	0	100	
I 576	13-12 DO YOU USE OR REFER TO SATURATION	33	23	16	16	19	8	20	0	6	0	100	
I 577	13-13 DO YOU USE OR REFER TO DC PLATE RESISTANCE	17	15	10	9	13	5	20	0	11	6	100	
I 578	13-14 DO YOU COMPUTE ACTUAL VALUES OF THE DC PLATE RESISTANCE FOR ELECTRON TUBES	0	0	3	2	6	0	10	0	0	0	0	
I 579	13-15 DO YOU USE OR REFER TO PLATE VOLTAGE	42	38	25	24	25	14	30	20	11	6	100	
I 580	13-16 DO YOU USE OR REFER TO PLATE CURRENT	33	31	21	20	25	11	30	20	11	6	100	
I 581	13-17 DO YOU USE OR REFER TO GRID VOLTAGE	42	38	25	22	31	14	40	20	11	6	100	
I 582	13-18 DO YOU USE OR REFER TO GRID CURRENT	33	31	20	16	31	5	40	20	11	6	100	
I 583	13-19 DO YOU USE OR REFER TO CATHODE VOLTAGE	50	38	23	22	25	14	30	20	11	6	100	
I 584	13-20 DO YOU USE OR REFER TO CATHODE CURRENT	33	31	18	16	25	5	30	20	11	6	100	
I 585	13-21 DO YOU USE OR REFER TO THE TRIODE AMPLIFICATION FACTOR (THE AMPLIFICATION FACTOR FOR TRIODES IS DEFINED AS THE RATIO OF CHANGE IN PLATE VOLTAGE TO A CHANGE IN GRID VOLTAGE)	25	0	2	2	0	0	0	0	6	0	100	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
I 586	13-22 DO YOU CALCULATE ACTUAL VALUES OF TRIODE AMPLIFICATION FACTORS	0	0	2	2	0	0	0	0	6	0	100	
I 587	13-23 DO YOU USE OR REFER TO MULTIGRID (TETRODE, PENTODE, ETC) AMPLIFICATION FACTORS	25	0	5	2	13	0	10	0	6	0	100	
I 588	13-24 DO YOU USE OR REFER TO ELECTRON TUBE TRANSCONDUCTANCE (G, WHICH IS MEASURED IN MHOS)	8	0	2	2	0	0	0	0	6	0	100	
I 589	13-25 DO YOU CALCULATE ACTUAL VALUES OF ELECTRON TUBE TRANSCONDUCTANCES	0	0	2	2	0	0	0	0	6	0	100	
I 590	13-26 DO YOU USE OR REFER TO THE ELECTRON TUBE PARAMETER CALLED AC PLATE RESISTANCE	0	0	3	4	0	0	0	0	0	0	0	
I 591	13-27 DO YOU CALCULATE ACTUAL VALUES OF AC PLATE RESISTANCE	0	0	2	2	0	0	0	0	0	0	0	
I 592	13-28 DO YOU USE OR REFER TO ELECTRON TUBE INTERELECTRODE CAPACITANCE	8	0	3	4	0	0	0	0	6	0	100	
I 593	13-29 DO YOU USE OR REFER TO CHARACTERISTIC CURVES IN YOUR WORK WITH ELECTRON TUBES	0	0	8	9	6	0	20	0	6	0	100	
I 594	13-30 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE VOLTAGE FOR A SPECIFIED BIAS	17	8	3	4	0	0	0	0	6	0	100	
I 595	13-31 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE CURRENT FOR A SPECIFIED BIAS	17	0	3	4	0	0	0	0	6	0	100	
I 596	13-32 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR CUTOFF	17	8	7	9	0	0	10	0	6	0	100	
I 597	13-33 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR SATURATION	17	8	7	9	0	0	10	0	6	0	100	
I 598	13-34 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER GAIN	25	15	15	13	19	5	20	0	6	0	100	
I 599	13-35 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER EFFICIENCY	17	8	11	11	13	3	20	0	6	0	100	
I 600	13-36 DO YOU USE TEST TUBE CHECKERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	17	0	2	2	0	0	0	0	6	0	100	
I 601	13-37 DO YOU USE MULTIMETERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	25	8	8	9	19	0	20	0	6	0	100	
I 602	13-38 DO YOU USE OSCILLOSCOPES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	25	46	15	13	19	8	20	0	6	0	100	
I 603	13-39 DO YOU USE CHARACTERISTIC CURVES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	8	0	3	4	0	0	0	0	6	0	100	
I 604	13-40 DO YOU CALCULATE ANY ELECTRON TUBE CAPACITANCES SUCH AS INPUT CAPACITANCE	0	0	3	2	6	0	10	0	6	0	100	
I 605	13-41 DO YOU USE OR REFER TO TUBE SOCKET NOTATION	92	96	11	11	13	3	10	20	0	0	0	
I 606	13-42 DO YOU USE OR REFER TO PIN NUMBERING SYSTEMS	67	54	20	18	25	11	30	20	6	6	0	
I 607	13-43 DO YOU USE OR REFER TO THE TYPE OF MATERIAL OR THE OPERATING TEMPERATURE OF THE EMITTING SURFACE IN THE ELECTRON TUBES YOU WORK ON	8	0	2	2	0	0	0	0	6	0	100	
I 608	13-44 DO YOU USE OR REFER TO TUBE SUBSTITUTION MATERIAL SUCH AS MANUALS OR CHARTS	25	23	7	9	13	3	20	0	0	0	0	
J 609	J1-01 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRESENT JOB	50	38	16	11	31	3	40	20	11	6	100	ELECTRON TUBE AMPLIFIERS AND CIRCUITS
J 610	J1-02 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	17	0	7	2	19	0	20	0	6	0	100	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
J 611	J1-03 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	33	15	10	4	25	0	30	20	0	0	0	
J 612	J1-04 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	50	23	10	7	19	3	10	20	6	0	100	
J 613	J1-05 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	42	23	10	7	19	3	20	20	0	0	0	
J 614	J1-06 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	42	31	8	7	13	3	10	20	6	0	100	
J 615	J1-07 DO YOU TROUBLESHOOT OR REPAIR DON'T KNOW WHICH TYPE OF AMPLIFIER	8	8	7	9	0	3	10	0	6	6	0	
J 616	J2-01 DO YOU WORK WITH GAS TUBES (HOT CATHODE OR COLD CATHODE)	33	38	13	11	19	5	10	20	6	0	100	
J 617	J2-02 DO YOU WORK WITH CATHODE-RAY TUBES	67	62	31	27	44	16	60	20	33	29	100	
J 618	J2-03 DO YOU USE OR REFER TO THE CHARACTERISTICS OF BEAM POWER TUBES	17	0	5	7	0	3	0	0	6	0	100	SPECIAL PURPOSE ELECTRON TUBES
J 619	J2-04 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH BEAM POWER TUBES ARE USED	25	15	3	4	0	0	0	0	0	0	0	
J 620	J2-05 DO YOU USE OR REFER TO THE CHARACTERISTICS OF THYRATRONS	25	15	8	7	13	5	10	20	22	18	100	
J 621	J2-06 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH THYRATRONS ARE USED	50	62	10	7	19	3	30	20	22	24	0	
J 622	J2-07 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTRON GUNS OF CATHODE-RAY TUBES (CRT)	42	54	31	27	44	14	60	20	22	18	100	
J 623	J2-08 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROMAGNETIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)	25	54	25	20	38	11	60	20	28	24	100	
J 624	J2-09 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROSTATIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)	42	31	23	20	31	8	30	20	28	24	100	
J 625	J2-10 DO YOU USE OR REFER TO PHOSPHOR SCREENS	50	54	25	20	38	8	50	0	17	12	100	
J 626	J2-11 DO YOU USE OR REFER TO AQUADAG COATINGS	17	15	15	13	19	0	20	0	6	0	100	
J 627	J2-12 DO YOU USE OR REFER TO ELECTRON OPTICS	17	15	15	16	13	5	20	0	28	24	100	
J 628	J2-13 DO YOU USE OR REFER TO PERSISTENCE	50	62	31	31	31	22	50	0	11	6	100	
J 629	J2-14 DO YOU USE OR REFER TO DECAY TIMES	33	31	16	13	25	3	40	0	17	12	100	
J 630	J2-15 DO YOU USE OR REFER TO FLUORESCENCE	25	38	18	18	19	8	30	0	11	6	100	
J 631	J2-16 DO YOU USE OR REFER TO PHOSPHORESCENCE	33	38	18	18	19	8	30	0	11	6	100	
J 632	J3-01 DO YOU WORK ON TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	75	85	66	60	81	57	80	100	67	71	0	
J 633	J3-02 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	25	31	30	24	44	19	50	20	33	35	0	HETERODYNING,
J 634	J3-03 DO YOU PERFORM TASKS ON FREQUENCY MIXERS	58	96	54	49	69	46	70	60	39	41	0	MODULATION, AND
J 635	J3-04 DO YOU USE OR REFER TO THE HETERODYNING OF SIGNALS IN YOUR WORK WITH TRANSMIT OR RECEIVE SYSTEMS	17	8	30	33	19	30	20	0	17	18	0	DEMODULATION
J 636	J3-05 DO YOU PERFORM TASKS ON REACTANCE MODULATORS	17	23	15	13	19	8	10	20	11	12	0	
J 637	J3-06 DO YOU PERFORM TASKS ON MODULATED OSCILLATORS	50	38	49	47	56	43	50	60	28	29	0	
K 638	K1-01 DO YOU WORK ON AM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	17	23	16	16	19	14	20	0	6	0	100	
K 639	K1-02 DO YOU INSPECT AM TRANSMIT OR RECEIVE SYSTEMS	17	23	13	13	13	11	20	0	6	0	100	
K 640	K1-03 DO YOU CLEAN AM TRANSMIT OR RECEIVE SYSTEMS	8	15	11	13	6	11	10	0	0	0	0	AM SYSTEMS
K 641	K1-04 DO YOU ALIGN OR ADJUST AM TRANSMIT OR RECEIVE SYSTEMS	17	23	15	16	13	11	20	0	6	0	100	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
K 642	K1-05 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE SYSTEMS	17	23	16	16	19	14	20	0	6	0	100	
K 643	K1-06 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE COMPONENTS	8	23	11	11	13	8	20	0	6	0	100	
K 644	K1-07 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE SYSTEMS	17	31	15	13	19	14	20	0	0	0	0	
K 645	K1-08 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE COMPONENTS	17	23	11	11	13	8	20	0	0	0	0	
K 646	K1-09 DO YOU PERFORM TASKS ON RF OSCILLATORS	8	8	15	16	13	11	20	0	6	0	100	
K 647	K1-10 DO YOU PERFORM TASKS ON RF AMPLIFIERS	8	8	15	16	13	11	20	0	6	0	100	
K 648	K1-11 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	0	0	2	2	0	0	0	0	6	0	100	
K 649	K1-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	8	0	13	16	6	11	10	0	6	0	100	
K 650	K1-13 DO YOU PERFORM TASKS ON LOCAL OSCILLATORS	8	8	15	16	13	11	20	0	6	0	100	
K 651	K1-14 DO YOU PERFORM TASKS ON IF AMPLIFIERS	8	8	15	16	13	11	20	0	6	0	100	
K 652	K1-15 DO YOU PERFORM TASKS ON DETECTORS	8	8	15	16	13	11	20	0	0	0	0	
K 653	K1-16 DO YOU PERFORM TASKS ON DON'T REMEMBER WHICH AM STAGE	0	0	3	4	0	3	0	0	6	0	100	
K 654	K1-17 DO YOU USE OR REFER TO AMPLITUDE STABILIZATION IN TRANSMITTERS	0	8	11	13	6	8	10	0	6	0	100	
K 655	K1-18 DO YOU USE OR REFER TO FREQUENCY STABILIZATION IN TRANSMITTERS	17	15	13	13	13	8	20	0	6	0	100	
K 656	K1-19 DO YOU USE OR REFER TO SENSITIVITY OF RECEIVERS	8	0	13	13	13	8	20	0	6	0	100	
K 657	K1-20 DO YOU USE OR REFER TO SELECTIVITY OF RECEIVERS	8	0	15	16	13	11	20	0	6	0	100	
K 658	K1-21 DO YOU USE OR REFER TO 2ND HARMONIC DISTORTION	0	0	5	7	0	3	0	0	6	0	100	
K 659	K1-22 DO YOU USE OR REFER TO BANDPASS DISTORTION	0	0	8	7	13	0	20	0	6	0	100	
K 660	K1-23 DO YOU USE OR REFER TO SQUARE LAW DISTORTION	0	0	2	2	0	0	0	0	0	0	0	
K 661	K1-24 DO YOU USE OR REFER TO CO-CHANNEL INTERFERENCE	0	0	2	2	0	0	0	0	0	0	0	
K 662	K1-25 DO YOU USE OR REFER TO IMAGE FREQUENCIES IN RECEIVERS	0	0	13	13	13	8	20	0	0	0	0	
K 663	K1-26 DO YOU USE OR REFER TO SIGNAL TO IMAGE RATIOS OR IMAGE REJECTION RATIOS	0	0	7	7	6	0	10	0	6	0	100	
K 664	K1-27 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM TRANSMITTER SCHEMATIC DIAGRAMS	17	15	13	13	13	8	20	0	6	0	100	
K 665	K1-28 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM RECEIVER SCHEMATIC DIAGRAMS	17	15	11	13	6	8	10	0	6	0	100	
K 666	K2-01 DO YOU WORK WITH FM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	17	31	39	36	50	32	50	40	11	12	0	
K 667	K2-02 DO YOU INSPECT FM TRANSMIT OR RECEIVE SYSTEMS	17	31	43	38	56	38	50	60	11	12	0	
K 668	K2-03 DO YOU CLEAN FM TRANSMIT OR RECEIVE SYSTEMS	8	15	33	31	38	27	30	60	11	12	0	
K 669	K2-04 DO YOU ALIGN FM TRANSMIT OR RECEIVE SYSTEMS	17	31	43	38	56	35	50	60	11	12	0	FM SYSTEMS
K 670	K2-05 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS	17	31	44	40	56	38	50	60	11	12	0	
K 671	K2-06 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE COMPONENTS	17	31	33	31	38	27	40	40	11	12	0	
K 672	K2-07 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS	17	23	39	36	50	35	50	40	11	12	0	
K 673	K2-08 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE COMPONENTS	17	31	28	27	31	22	40	20	11	12	0	
K 674	K2-09 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	0	0	7	4	13	3	10	20	6	6	0	
K 675	K2-10 DO YOU PERFORM TASKS ON FREQUENCY MULTIPLIERS	8	8	25	24	25	16	30	20	6	6	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
K	676	K2-11 DO YOU PERFORM TASKS ON DRIVERS (INTERMEDIATE AMPLIFIERS)	8	8	25	27	19	19	20	20	6	6	0	
K	677	K2-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	8	8	28	27	31	19	40	20	6	6	0	
K	678	K2-13 DO YOU PERFORM TASKS ON RF AMPLIFIERS	8	15	31	31	31	24	40	20	6	6	0	
K	679	K2-14 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	8	0	21	20	25	14	30	20	6	6	0	
K	680	K2-15 DO YOU PERFORM TASKS ON IF AMPLIFIERS	8	15	28	27	31	19	40	20	6	6	0	
K	681	K2-16 DO YOU PERFORM TASKS ON LIMITERS	8	8	21	20	25	14	30	20	6	6	0	
K	682	K2-17 DO YOU PERFORM TASKS ON FREQUENCY DISCRIMINATORS	8	8	26	24	31	16	40	20	11	12	0	
K	683	K2-18 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM TRANSMITTERS	8	31	39	38	44	32	50	40	11	12	0	
K	684	K2-19 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM RECEIVERS	8	31	34	33	38	27	40	40	11	12	0	
K	685	K3-01 DO YOU CONVERT DECIMAL (BASE 10) NUMBERS TO OCTAL (BASE 8) NUMBERS	8	0	11	11	13	5	10	20	11	6	100	
K	686	K3-02 DO YOU CONVERT DECIMAL NUMBERS TO BINARY (BASE 2) NUMBERS	8	0	18	18	19	14	10	20	28	29	100	NUMBERING SYSTEMS
K	687	K3-03 DO YOU CONVERT OCTAL NUMBERS TO DECIMAL NUMBERS	8	0	11	11	13	5	10	20	17	12	100	
K	688	K3-04 DO YOU CONVERT OCTAL NUMBERS TO BINARY NUMBERS	8	0	11	11	13	5	10	20	17	12	100	
K	689	K3-05 DO YOU CONVERT BINARY NUMBERS TO DECIMAL NUMBERS	8	0	15	13	19	8	10	20	33	29	100	
K	690	K3-06 DO YOU CONVERT BINARY NUMBERS TO OCTAL NUMBERS	8	0	11	11	13	5	10	20	17	12	100	
K	691	K3-07 DO YOU ADD BINARY NUMBERS TO GET A SUM	8	0	18	18	19	14	10	20	28	29	100	
K	692	K3-08 DO YOU SUBTRACT BINARY NUMBERS USING THE END-AROUND-CARRY METHOD	8	0	13	13	13	8	10	20	17	12	100	
K	693	K3-09 DO YOU SUBTRACT BINARY NUMBERS USING THE DIRECT SUBTRACTION METHOD	8	0	18	18	19	14	10	20	28	29	100	
K	694	K3-10 DO YOU ADD OCTAL NUMBERS TO GET A SUM	8	0	11	11	13	5	10	20	17	12	100	
L	695	L1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO LOGIC FUNCTIONS	0	15	21	20	25	16	30	20	33	29	100	
L	696	L1-02 DO YOU CONSTRUCT TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	0	0	15	13	19	8	20	20	11	6	100	
L	697	L1-03 DO YOU CONSTRUCT TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	0	0	15	13	19	8	20	20	17	12	100	
L	698	L1-04 DO YOU CONSTRUCT TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	0	0	13	13	13	8	20	0	17	12	100	
L	699	L1-05 DO YOU CONSTRUCT TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS OR GATES	0	0	13	13	13	8	20	0	17	12	100	
L	700	L1-06 DO YOU USE OR REFER TO TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	0	8	15	13	19	8	20	20	28	29	100	
L	701	L1-07 DO YOU USE OR REFER TO TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	0	8	15	13	19	8	20	20	28	29	100	
L	702	L1-08 DO YOU USE OR REFER TO TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	0	8	15	13	19	8	20	20	22	18	100	
L	703	L1-09 DO YOU USE OR REFER TO TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS	0	0	15	13	19	8	20	20	22	18	100	
L	704	L1-10 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR AND GATES	0	15	20	20	19	16	20	20	33	29	100	
L	705	L1-11 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR OR GATES	0	15	20	20	19	16	20	20	33	29	100	
L	706	L1-12 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR NAND OR NOR GATES	0	15	20	20	19	16	20	20	33	29	100	LOGIC FUNCTIONS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236
L 707	L1-13 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR EXCLUSIVE OR GATES	0	8	18	18	19	14	20	20	28	24	100
L 708	L2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO BOOLEAN EQUATIONS, LOGIC DIAGRAMS, OR LOGIC CIRCUITS	8	15	13	13	13	14	10	20	17	12	100
L 709	L2-02 DO YOU DRAW LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUITS	0	0	5	4	6	3	10	0	6	6	0
L 710	L2-03 DO YOU CONSTRUCT TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	0	0	7	4	13	3	10	20	6	6	0
L 711	L2-04 DO YOU DRAW LOGIC DIAGRAMS FROM GIVEN BOOLEAN EQUATIONS	0	0	5	4	6	3	10	0	11	6	100
L 712	L2-05 DO YOU MEASURE INPUTS OR OUTPUTS OF LOGIC GATES	0	8	10	9	13	8	10	20	17	12	100
L 713	L2-06 DO YOU DEVELOP OR ANALYZE BOOLEAN EQUATIONS IN THE PROCESS OF TROUBLESHOOTING DIGITAL CIRCUITS	0	0	7	7	6	5	10	0	6	6	0
L 714	L2-07 DO YOU ANALYZE LOGIC CIRCUITS BY USING BOOLEAN ALGEBRA	0	0	7	7	6	5	10	0	11	6	100
L 715	L2-08 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUIT GATES	0	8	8	7	13	5	10	20	6	6	0
L 716	L2-09 DO YOU USE OR REFER TO TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	0	0	7	7	6	5	10	0	6	6	0
L 717	L2-10 DO YOU USE OR REFER TO LOGIC DIAGRAMS CONSISTING OF MORE THAN ONE GATE	0	8	11	11	13	11	10	20	17	12	100
L 718	L2-11 DO YOU COMPUTE SUM AND CARRY EXPRESSIONS FOR SERIAL HALF OR FULL ADDER LOGIC DIAGRAMS	0	8	8	7	13	5	10	20	6	6	0
L 719	L2-12 DO YOU TRACE DATA FLOW THROUGH PARALLEL FULL ADDER LOGIC DIAGRAMS	0	8	10	7	19	5	20	20	17	12	100
L 720	L2-13 DO YOU WORK WITH ASTABLE (FREE RUNNING) MULTIVIBRATORS	8	8	15	13	19	11	20	20	17	12	100
L 721	L2-14 DO YOU WORK WITH BISTABLE (FLIP-FLOP) MULTIVIBRATORS	8	8	16	16	19	14	20	20	17	12	100
L 722	L2-15 DO YOU WORK WITH MONOSTABLE (ONE-SHOT) MULTIVIBRATORS	8	8	16	16	19	14	20	20	17	12	100
L 723	L2-16 DO YOU USE OR REFER TO FLIP-FLOP MULTIVIBRATOR SYMBOLS	0	8	16	16	19	14	20	20	17	12	100
L 724	L2-17 DO YOU USE OR REFER TO SINGLE-SHOT MULTIVIBRATOR SYMBOLS	0	8	16	16	19	14	20	20	17	12	100
L 725	L2-18 DO YOU USE OR REFER TO FLIP-FLOP CIRCUIT DIAGRAMS	8	8	16	16	19	14	20	20	17	12	100
L 726	L2-19 DO YOU USE OR REFER TO FLIP-FLOP TRUTH TABLES	0	0	11	9	19	5	20	20	11	6	100
L 727	L2-20 DO YOU USE OR REFER TO COMPLEMENTED FLIP-FLOP LOGIC SYMBOLS	0	8	13	9	25	5	20	40	11	12	0
L 728	L2-21 DO YOU USE OR REFER TO COMPLEMENTING FLIP-FLOP LOGIC SYMBOLS	0	8	11	9	19	5	20	20	17	12	100
L 729	L2-22 DO YOU MEASURE OUTPUT WAVESHAPES OF LOGIC CIRCUITS	8	8	15	13	19	11	20	20	17	12	100
L 730	L2-23 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTED FLIP-FLOP SCHEMATIC DIAGRAMS	8	8	13	11	19	8	20	20	17	12	100
L 731	L2-24 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTING FLIP-FLOP SCHEMATIC DIAGRAMS	8	8	11	9	19	5	20	20	17	12	100
L 732	L2-25 DO YOU CONSTRUCT TRUTH TABLES FOR J-K FLIP-FLOP LOGIC SYMBOLS	0	0	8	7	13	5	10	20	11	6	100

BOOLEAN EQUATIONS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
L 733	L3-01 DO YOU WORK WITH DIGITAL COUNTERS IN YOUR PRESENT JOB	8	8	15	16	13	14	0	20	22	24	0	
L 734	L3-02 DO YOU USE OR REFER TO UP-COUNTERS	8	8	16	16	19	14	10	20	22	24	0	
L 735	L3-03 DO YOU USE OR REFER TO DOWN-COUNTERS	6	8	15	13	19	11	10	20	22	24	0	
L 736	L3-04 DO YOU USE OR REFER TO SERIAL COUNTERS	0	8	8	9	6	5	10	0	22	24	0	COUNTERS
L 737	L3-05 DO YOU USE OR REFER TO PARALLEL COUNTERS	0	8	10	9	13	5	10	0	22	24	0	
L 738	L3-06 DO YOU USE OR REFER TO RING COUNTERS	8	0	7	7	6	3	10	0	6	6	0	
L 739	L3-07 DO YOU USE OR REFER TO DECADE COUNTERS	8	0	8	9	6	5	10	0	11	12	0	
L 740	L3-08 DO YOU USE OR REFER TO COUNT DETECT CIRCUITS	0	8	11	11	13	8	10	20	22	24	0	
L 741	L3-09 DO YOU USE OR REFER TO DOWN CLOCKS	0	0	15	16	13	14	10	20	17	18	0	
L 742	L3-10 DO YOU USE OR REFER TO UP CLOCKS	0	0	15	16	13	14	10	20	17	18	0	
L 743	L3-11 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	0	8	8	7	13	5	10	20	17	18	0	
L 744	L3-12 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	0	0	7	9	13	3	10	20	11	12	0	
L 745	L3-13 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF DECADE COUNTERS	0	0	7	7	6	3	10	0	11	12	0	
L 746	L3-14 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF RING COUNTERS	0	0	7	7	6	3	10	0	6	6	0	
L 747	L3-15 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER	0	0	7	7	6	5	10	0	17	18	0	
L 748	L3-16 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	0	0	10	11	6	8	10	0	22	24	0	
L 749	L3-17 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF COUNTERS	0	0	10	9	13	5	10	20	17	18	0	
L 750	L3-18 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	0	0	7	9	13	3	10	20	6	6	0	
L 751	L3-19 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	0	0	5	9	6	3	10	0	6	6	0	
L 752	L3-20 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTERS	0	0	7	9	13	3	10	20	11	12	0	
L 753	L3-21 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR OTHER TYPES OF COUNTERS	0	0	5	9	6	3	10	0	11	12	0	
L 754	L3-22 DO YOU CONSTRUCT TRUTH TABLES FROM LOGIC DIAGRAMS OF DECADE COUNTERS	0	0	5	9	6	3	10	0	6	6	0	
L 755	L3-23 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP IN RING COUNTERS FOR SPECIFIC INPUT PULSES	0	0	5	9	6	3	10	0	6	6	0	
L 756	L3-24 DO YOU DETERMINE THE APPROPRIATE AND GATE NECESSARY IN COUNT DETECT CIRCUITS TO INDICATE A REQUIRED COUNT	0	0	7	9	13	3	10	20	6	6	0	
M 757	M1-01 DO YOU WORK WITH SAWTOOTH WAVE GENERATORS	92	38	99	97	56	93	60	60	99	41	100	
M 758	M1-02 DO YOU WORK WITH TRAPEZOIDAL WAVE GENERATORS	17	31	30	29	31	29	20	60	17	12	100	
M 759	M1-03 DO YOU WORK WITH PULSED OSCILLATORS WITH REGENERATIVE FEEDBACK	25	38	39	36	50	32	40	60	33	29	100	TIMING
M 760	M1-04 DO YOU WORK WITH PULSED OSCILLATORS WITHOUT REGENERATIVE FEEDBACK	33	31	36	36	38	30	40	40	22	18	100	CIRCUITS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
M 761	M1-05 DO YOU WORK WITH BLOCKING OSCILLATORS	50	46	39	40	38	35	40	60	28	29	100	
M 762	M1-06 DO YOU USE OR REFER TO RISE TIME	33	38	39	38	44	35	40	20	33	29	100	
M 763	M1-07 DO YOU USE OR REFER TO FALL OR FLYBACK TIME	25	38	36	33	44	30	40	20	44	41	100	
M 764	M1-08 DO YOU USE OR REFER TO SWEEP TIME	33	38	51	47	63	43	70	40	50	47	100	
M 765	M1-09 DO YOU USE OR REFER TO ELECTRICAL LENGTH OF SAWTOOTH WAVEFORMS	33	38	46	42	56	38	60	40	44	41	100	
M 766	M1-10 DO YOU USE OR REFER TO PHYSICAL LENGTH OF SAWTOOTH WAVEFORMS	8	38	46	42	56	38	60	40	44	41	100	
M 767	M1-11 DO YOU USE OR REFER TO LINEAR SLOPE OF SAWTOOTH WAVEFORMS	17	38	46	42	56	35	70	20	44	41	100	
M 768	M1-12 DO YOU USE OR REFER TO GATE LENGTH OF SAWTOOTH WAVEFORMS	17	38	44	42	50	35	60	20	39	35	100	
M 769	M2-01 DO YOU USE SIGNAL GENERATORS IN YOUR PRESENT JOB	17	15	18	16	25	11	20	20	33	29	100	
M 770	M2-02 DO YOU PERFORM OPERATIONAL CHECKS WHILE USING SIGNAL GENERATORS	17	15	13	11	19	8	10	20	28	24	100	USE OF SIGNAL GENERATORS
M 771	M2-03 DO YOU PERFORM PERIODIC MAINTENANCE SUCH AS ADJUSTING, ALIGNING, OR CALIBRATING WHILE USING SIGNAL GENERATORS	17	15	16	13	25	11	20	20	22	24	0	
M 772	M2-04 DO YOU TROUBLESHOOT TO AN ASSEMBLY OR SUBASSEMBLY WHILE USING SIGNAL GENERATORS	17	15	13	11	19	11	10	20	28	24	100	
M 773	M2-05 DO YOU TROUBLESHOOT TO THE SMALLEST REPLACEABLE COMPONENT WHILE USING SIGNAL GENERATORS	0	15	10	9	13	5	0	20	22	18	100	
M 774	M2-06 DO YOU USE AUDIO SINE-WAVE GENERATORS	0	8	11	11	13	5	0	20	17	12	100	
M 775	M2-07 DO YOU USE AUDIO NON-SINUSOIDAL WAVE GENERATORS SUCH AS SQUARE WAVE, TRIANGLE, PULSE, OR SPIKE	0	8	10	11	6	5	0	20	17	12	100	
M 776	M2-08 DO YOU USE RF GENERATORS LESS THAN 1,000 MH	0	15	18	16	25	8	20	20	6	6	0	
M 777	M2-09 DO YOU USE RF GENERATORS GREATER THAN 1,000 MH	17	15	16	16	19	11	20	20	17	18	0	
M 778	M2-10 DO YOU USE OTHER SPECIAL PURPOSE OR MULTI-FUNCTION GENERATORS	8	15	10	11	6	5	10	0	17	18	0	
M 779	M3-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH ALTERNATING CURRENT OR DIRECT CURRENT MOTORS OR GENERATORS	58	31	21	20	25	11	40	0	22	18	100	
M 780	M3-02 DO YOU INSPECT MOTORS	58	31	18	16	25	11	30	0	17	18	0	
M 781	M3-03 DO YOU CLEAN OR LUBRICATE MOTORS	42	31	18	16	25	11	30	0	17	18	0	MOTORS AND GENERATORS
M 782	M3-04 DO YOU OPERATE MOTORS	42	31	20	18	25	11	40	0	22	18	100	
M 783	M3-05 DO YOU REMOVE OR REPLACE COMPLETE MOTORS	42	31	18	16	25	8	40	0	11	12	0	
M 784	M3-06 DO YOU REMOVE OR REPLACE MOTOR PARTS	25	0	8	7	13	3	20	0	11	12	0	
M 785	M3-07 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF MOTORS	42	31	18	18	19	11	30	0	22	18	100	
M 786	M3-08 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF MOTORS	8	0	7	7	6	3	10	0	17	12	100	
M 787	M3-09 DO YOU PERFORM ANY TASKS ON FIELD COILS	0	0	7	7	6	3	10	0	6	6	0	
M 788	M3-10 DO YOU PERFORM ANY TASKS ON ARMATURES	0	0	7	7	6	3	10	0	6	6	0	
M 789	M3-11 DO YOU PERFORM ANY TASKS ON ROTORS	0	0	8	9	6	3	10	0	6	6	0	
M 790	M3-12 DO YOU PERFORM ANY TASKS ON BRUSHES	8	0	5	9	6	0	10	0	6	6	0	
M 791	M3-13 DO YOU PERFORM ANY TASKS ON SLIP RINGS	8	0	7	7	4	3	10	0	6	6	0	
M 792	M3-14 DO YOU PERFORM ANY TASKS ON COMMUTATORS	0	0	5	9	4	0	10	0	6	6	0	
M 793	M3-15 DO YOU PERFORM ANY TASKS ON POLE PIECES	0	0	5	9	4	0	10	0	6	6	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
M 794	M3-16 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OF THE FORCE OR TORQUE CREATED BY A MOTOR	0	0	3	2	6	0	10	0	11	6	100	
M 795	M3-17 DO YOU DETERMINE OR MEASURE THE DIRECTION OF THE MECHANICAL FORCE OR TORQUE CREATED BY A MOTOR	0	0	10	7	19	0	30	0	11	6	100	
M 796	M3-18 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OR DIRECTION OF THE INDUCED VOLTAGE IN MOTORS	8	8	8	4	19	0	20	0	11	6	100	
M 797	M3-19 DO YOU WORK WITH SYNCHRONOUS MOTORS	50	31	13	13	13	5	20	0	11	6	100	
M 798	M3-20 DO YOU WORK WITH INDUCTION MOTORS	42	31	15	13	19	5	20	0	11	6	100	
M 799	M3-21 DO YOU WORK WITH SPLIT-PHASE MOTORS	33	8	10	9	13	3	10	0	17	12	100	
M 800	M3-22 DO YOU WORK WITH SOME COMBINATION OF THE ABOVE MOTORS	33	15	18	18	19	11	20	0	11	6	100	
M 801	M3-23 DO YOU INSPECT GENERATORS	17	8	8	9	6	8	0	0	11	12	0	
M 802	M3-24 DO YOU CLEAN OR LUBRICATE GENERATORS	8	0	8	9	6	5	0	0	11	12	0	
M 803	M3-25 DO YOU OPERATE GENERATORS	17	8	11	11	13	8	10	0	17	12	100	
M 804	M3-26 DO YOU REMOVE OR REPLACE COMPLETE GENERATORS	8	8	5	4	6	0	0	0	6	6	0	
M 805	M3-27 DO YOU REMOVE OR REPLACE GENERATOR PARTS	0	8	5	7	0	3	0	0	6	6	0	
M 806	M3-28 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF GENERATORS	8	23	7	7	6	3	0	0	17	12	100	
M 807	M3-29 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF GENERATORS	0	0	5	7	0	3	0	0	11	6	100	
N 808	N1-01 DO YOU WORK WITH METERS IN YOUR PRESENT JOB	75	77	67	69	75	62	70	80	67	65	100	
N 809	N1-02 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF PERMANENT MAGNETS	17	15	8	9	6	3	10	0	22	18	100	
N 810	N1-03 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF MOVING COILS	25	8	8	9	6	3	10	0	22	18	100	METER MOVEMENTS
N 811	N1-04 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF SPIRAL SPRINGS	17	0	8	9	6	3	10	0	22	18	100	
N 812	N1-05 DO YOU READ METER SCALES	75	77	67	67	69	66	70	60	67	65	100	
N 813	N1-06 DO YOU EXTEND THE RANGE OF AMMETERS	33	31	16	13	25	8	90	0	22	18	100	
N 814	N1-07 DO YOU ZERO OHMMETERS	75	77	69	69	63	65	70	90	67	65	100	
N 815	N1-08 DO YOU ZERO AMMETERS	42	23	30	29	44	29	60	20	28	29	100	
N 816	N1-09 DO YOU EXTEND THE RANGE OF VOLTMETERS	50	31	36	31	50	27	60	20	44	41	100	
N 817	N1-10 DO YOU USE OR REFER TO VOLTMETER SENSITIVITY (EXPRESSED IN UNITS OF OHMS PER VOLT)	42	15	38	33	50	30	60	20	39	35	100	
N 818	N2-01 DO YOU WORK WITH SATURABLE REACTORS OR MAGNETIC AMPLIFIERS IN YOUR PRESENT JOB	33	38	18	18	19	5	20	0	17	12	100	
N 819	N2-02 DO YOU INSPECT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	33	38	11	11	13	3	20	0	6	6	0	
N 820	N2-03 DO YOU CLEAN MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	25	23	10	11	6	3	10	0	6	6	0	
N 821	N2-04 DO YOU ADJUST MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	33	31	8	7	13	3	20	0	6	6	0	
N 822	N2-05 DO YOU TROUBLESHOOT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	33	38	15	13	19	5	20	0	6	6	0	
N 823	N2-06 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	33	38	15	11	25	3	30	0	6	6	0	
N 824	N2-07 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIER OR SATURABLE REACTOR COMPONENTS	17	0	3	2	6	0	10	0	6	6	0	SATURABLE REACTORS AND MAGNETIC AMPLIFIERS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
N	825	N2-08 DO YOU USE OR REFER TO HYSTERESIS CURVES OR LOOPS	0	0	3	2	6	0	10	0	6	6	0	
N	826	N2-09 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE REACTORS	17	8	8	7	13	0	20	0	11	6	100	
N	827	N2-10 DO YOU MEASURE OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE REACTORS	17	0	11	7	25	0	30	0	6	6	0	
N	828	N2-11 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS FOR MAGNETIC AMPLIFIERS	17	15	7	7	6	0	0	0	11	6	100	
N	829	N2-12 DO YOU USE OR REFER TO COERCIVE FORCE IN SATURABLE REACTORS	0	0	0	0	0	0	0	0	6	6	0	
N	830	N2-13 DO YOU USE OR REFER TO RESIDUAL MAGNETISM IN SATURABLE REACTORS	0	0	2	2	0	0	0	0	11	6	100	
N	831	N2-14 DO YOU USE OR REFER TO FLUX DENSITY IN SATURABLE REACTORS	0	0	5	7	0	3	0	0	11	6	100	
N	832	N2-15 DO YOU USE OR REFER TO POINT OF SATURATION IN SATURABLE REACTORS	0	0	5	9	6	3	0	0	11	6	100	
N	833	N2-16 DO YOU USE OR REFER TO SATURABLE REACTOR SCHEMATIC SYMBOLS	17	8	13	9	25	3	30	0	11	6	100	
N	834	N3-01 DO YOU WORK WITH WAVESHAPING CIRCUITS IN YOUR PRESENT JOB	50	46	49	40	75	35	80	60	56	53	100	
N	835	N3-02 DO YOU USE OR REFER TO TRANSIENT INTERVALS	42	23	25	22	31	19	30	20	39	35	100	
N	836	N3-03 DO YOU USE OR REFER TO PULSE WIDTH (PW)	50	46	48	38	75	32	80	60	56	53	100	WAVESHAPING CIRCUITS
N	837	N3-04 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	42	38	44	36	69	30	70	60	50	47	100	
N	838	N3-05 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	50	46	49	40	75	32	80	60	56	53	100	
N	839	N3-06 DO YOU USE OR REFER TO DIFFERENTIATING CIRCUITS	25	23	34	31	44	19	50	40	44	41	100	
N	840	N3-07 DO YOU USE OR REFER TO INTEGRATING CIRCUITS	42	46	34	33	38	29	50	40	50	47	100	
N	841	N3-08 DO YOU USE OR REFER TO THE CLASSIFICATION OF TIME CONSTANTS (TC) AS LONG, MEDIUM, OR SHORT	33	31	36	31	50	29	50	60	39	35	100	
N	842	N3-09 DO YOU DETERMINE WHETHER AN LR OR RC CIRCUIT IS DIFFERENTIATING OR INTEGRATING BASED ON THE TIME CONSTANT AND OUTPUT CONFIGURATION	25	23	13	16	6	8	10	0	22	18	100	
N	843	N3-10 DO YOU WORK WITH SQUARE WAVE GENERATORS	50	31	36	33	44	22	40	60	28	24	100	
N	844	N3-11 DO YOU WORK WITH RECTANGULAR WAVE GENERATORS	17	31	30	29	44	16	30	60	17	12	100	
O	845	O1-01 DO YOU WORK ON SINGLE SIDEBAND SYSTEMS IN YOUR PRESENT JOB	0	0	3	0	13	0	20	0	0	0	0	
O	846	O1-02 DO YOU INSPECT SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	2	0	6	0	10	0	6	6	0	SINGLE SIDEBAND SYSTEMS
O	847	O1-03 DO YOU CLEAN SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	2	0	6	0	10	0	6	6	0	
O	848	O1-04 DO YOU ALIGN SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	2	0	6	0	10	0	0	0	0	
O	849	O1-05 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	2	0	6	0	10	0	0	0	0	
O	850	O1-06 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE COMPONENTS	0	0	2	0	6	0	10	0	0	0	0	
O	851	O1-07 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	2	0	6	0	10	0	0	0	0	
O	852	O1-08 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE COMPONENTS	0	0	2	0	6	0	10	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236
0 853	01-09 DO YOU PERFORM TASKS ON SSB AUDIO AMPLIFIERS	0	0	3	2	6	0	10	0	0	0	0
0 854	01-10 DO YOU PERFORM TASKS ON SSB BALANCED MODULATORS	0	0	3	2	6	0	10	0	0	0	0
0 855	01-11 DO YOU PERFORM TASKS ON SSB CARRIER OSCILLATORS	0	0	2	0	6	0	10	0	0	0	0
0 856	01-12 DO YOU PERFORM TASKS ON SSB LC FILTERS	0	0	2	0	6	0	10	0	0	0	0
0 857	01-13 DO YOU PERFORM TASKS ON SSB CRYSTAL FILTERS	0	0	2	0	6	0	10	0	0	0	0
0 858	01-14 DO YOU PERFORM TASKS ON SSB MECHANICAL FILTERS	0	0	2	0	6	0	10	0	0	0	0
0 859	01-15 DO YOU PERFORM TASKS ON SSB OSCILLATORS	0	0	2	0	6	0	10	0	0	0	0
0 860	01-16 DO YOU PERFORM TASKS ON SSB MIXERS	0	0	2	0	6	0	10	0	0	0	0
0 861	01-17 DO YOU PERFORM TASKS ON SSB DRIVERS	0	0	2	0	6	0	10	0	0	0	0
0 862	01-18 DO YOU PERFORM TASKS ON SSB POWER AMPLIFIERS	0	0	2	0	6	0	10	0	0	0	0
0 863	01-19 DO YOU PERFORM TASKS ON SSB RF AMPLIFIERS	0	0	2	0	6	0	10	0	0	0	0
0 864	01-20 DO YOU PERFORM TASKS ON SSB FREQUENCY CONVERTERS	0	0	2	0	6	0	10	0	0	0	0
0 865	01-21 DO YOU PERFORM TASKS ON SSB IF AMPLIFIERS	0	0	2	0	6	0	10	0	0	0	0
0 866	01-22 DO YOU PERFORM TASKS ON SSB DEMODULATORS	0	0	2	0	6	0	10	0	0	0	0
0 867	01-23 DO YOU PERFORM TASKS ON SSB DON'T REMEMBER WHICH SSB SYSTEM STAGES	0	0	2	0	6	0	10	0	0	0	0
0 868	01-24 DO YOU USE OR REFER TO SELECTIVE FADING	0	0	2	0	6	0	10	0	0	0	0
0 869	01-25 DO YOU USE OR REFER TO PEAK POWER	0	0	2	0	6	0	10	0	0	0	0
0 870	01-26 DO YOU USE OR REFER TO FREQUENCY STABILITY	0	0	2	0	6	0	10	0	0	0	0
0 871	01-27 DO YOU USE OR REFER TO RESPONSE CURVES FOR BANDWIDTH FILTERS	0	0	2	0	6	0	10	0	0	0	0
0 872	01-28 DO YOU CALCULATE PEAK POWER OR EFFECTIVE POWER OF SSB TRANSMITTERS	0	0	2	0	6	0	10	0	0	0	0
0 873	01-29 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB TRANSMITTER SCHEMATIC DIAGRAMS	0	0	2	0	6	0	10	0	0	0	0
0 874	01-30 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB RECEIVER SCHEMATIC DIAGRAMS	0	0	2	0	6	0	10	0	0	0	0
0 875	02-01 DO YOU WORK ON PULSE MODULATION SYSTEMS IN YOUR PRESENT JOB	58	38	43	40	50	38	50	40	11	12	0
0 876	02-02 DO YOU INSPECT PULSE MODULATION SYSTEMS	50	31	36	33	44	30	40	40	6	6	0
0 877	02-03 DO YOU CLEAN PULSE MODULATION SYSTEMS	42	31	30	27	38	22	30	40	6	6	0
0 878	02-04 DO YOU ALIGN PULSE MODULATION SYSTEMS	58	31	39	36	50	35	50	40	6	6	0
0 879	02-05 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS	58	31	41	38	50	35	50	40	6	6	0
0 880	02-06 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEM COMPONENTS	50	23	34	33	38	30	30	40	6	6	0
0 881	02-07 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS	50	31	39	36	50	32	50	40	6	6	0
0 882	02-08 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEM COMPONENTS	58	23	28	27	31	22	30	20	6	6	0
0 883	02-09 DO YOU WORK ON PULSE-AMPLITUDE MODULATION (PAM) SYSTEMS	25	15	18	18	19	14	20	20	0	0	0
0 884	02-10 DO YOU WORK ON PULSE-DURATION MODULATION (PDM) SYSTEMS	25	15	16	16	19	11	30	0	0	0	0
0 885	02-11 DO YOU WORK ON PULSE-POSITION MODULATION (PPM) SYSTEMS	17	8	10	9	13	3	10	20	0	0	0
0 886	02-12 DO YOU WORK ON PULSE-CODE MODULATION (PCM) SYSTEMS	8	15	10	9	13	3	10	20	0	0	0
0 887	02-13 DO YOU WORK ON LINE PULSING MODULATION SYSTEMS	17	8	8	7	13	3	10	20	0	0	0
0 888	02-14 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF MODULATION SYSTEM	25	23	20	20	19	16	20	0	6	6	0

PULSE MODULATION SYSTEMS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
0 889	02-15 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER SUPPLIES	42	31	31	31	31	27	30	40	6	6	0	
0 890	02-16 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM CHARGING CHOKES AND CHARGING DIODES	33	31	18	18	19	14	20	20	0	0	0	
0 891	02-17 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE FORMING NETWORKS	42	31	28	27	31	22	20	40	6	6	0	
0 892	02-18 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TIMERS	33	31	21	20	25	19	30	20	6	6	0	
0 893	02-19 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM SWITCHES SUCH AS GAS THYRATRONS	33	31	13	9	25	8	30	20	6	6	0	
0 894	02-20 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE TRANSFORMERS	42	31	25	20	38	19	30	40	6	6	0	
0 895	02-21 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TRANSMITTER TUBES	42	31	30	27	38	27	40	20	6	6	0	
0 896	02-22 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM RF AMPLIFIERS	42	23	38	36	44	32	40	40	6	6	0	
0 897	02-23 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM FREQUENCY CONVERTERS	33	23	25	20	38	16	30	40	6	6	0	
0 898	02-24 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM IF AMPLIFIERS	42	31	34	29	50	29	50	40	6	6	0	
0 899	02-25 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DETECTORS	33	31	30	29	31	24	30	20	6	6	0	
0 900	02-26 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM VIDEO AMPLIFIERS	42	31	33	31	38	27	30	40	6	6	0	
0 901	02-27 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER VIDEO AMPLIFIERS	42	23	28	27	31	22	20	40	6	6	0	
0 902	02-28 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DON'T REMEMBER WHICH PULSE MODULATION SYSTEM STAGES	8	8	11	13	6	11	10	0	6	6	0	
0 903	02-29 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	58	38	41	38	50	35	50	40	6	6	0	
0 904	02-30 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	50	31	34	33	38	30	40	40	6	6	0	
0 905	02-31 DO YOU USE OR REFER TO PULSE WIDTH (PW)	50	38	43	40	50	38	50	40	6	6	0	
0 906	02-32 DO YOU USE OR REFER TO PULSE SHAPE	42	31	34	31	44	27	40	40	6	6	0	
0 907	02-33 DO YOU USE OR REFER TO PEAK POWER	42	23	36	36	38	32	40	40	6	6	0	
0 908	02-34 DO YOU USE OR REFER TO AVERAGE POWER	33	23	36	36	38	32	50	20	6	6	0	
0 909	02-35 DO YOU CALCULATE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	17	15	16	16	19	16	20	20	6	6	0	
0 910	02-36 DO YOU MEASURE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	33	31	31	29	38	29	40	20	6	6	0	
0 911	02-37 DO YOU USE FORMULAS TO CALCULATE AVERAGE POWER OR PEAK POWER OF PULSE MODULATION TRANSMIT SYSTEMS	8	0	15	13	19	19	20	20	6	6	0	
0 912	02-38 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION TRANSMITTER SCHEMATIC DIAGRAMS	33	31	38	36	44	32	40	40	6	6	0	
0 913	02-39 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION RECEIVER SCHEMATIC DIAGRAMS	50	38	41	38	50	35	50	40	6	6	0	
0 914	03-01 DO YOU WORK WITH ANTENNAS IN YOUR PRESENT JOB	83	85	75	71	88	73	90	80	72	76	0	ANTENNAS
0 915	03-02 DO YOU INSPECT ANTENNAS	83	77	75	71	88	76	90	80	67	71	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236
0 916	03-03 DO YOU CLEAN ANTENNAS	67	69	66	60	81	62	80	80	61	65	0
0 917	03-04 DO YOU PHYSICALLY ALIGN ANTENNAS	75	77	67	64	75	65	70	80	67	71	0
0 918	03-05 DO YOU ELECTRICALLY ALIGN ANTENNAS	83	69	75	71	88	73	90	80	61	65	0
0 919	03-06 DO YOU TROUBLESHOOT TO ANTENNAS	83	77	75	73	81	76	90	60	78	82	0
0 920	03-07 DO YOU TROUBLESHOOT TO ANTENNA COMPONENTS	75	62	62	56	81	57	80	80	67	71	0
0 921	03-08 DO YOU REMOVE OR INSTALL ANTENNAS	75	62	72	69	81	73	90	60	72	76	0
0 922	03-09 DO YOU REMOVE OR REPLACE COMPONENTS OF ANTENNAS	75	77	59	53	75	59	70	80	61	65	0
0 923	03-10 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF E OR ELECTRIC FIELD LINES	25	8	16	13	25	5	30	0	17	18	0
0 924	03-11 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF H OR MAGNETIC FIELD LINES	25	8	15	11	25	3	30	0	17	18	0
0 925	03-12 DO YOU DETERMINE THE DIRECTION OF THE MAGNETIC LINES IN RELATION TO THE ELECTRIC LINES OF FORCE FOR ANTENNAS	17	8	10	9	13	3	10	0	11	12	0
0 926	03-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE OF CORRECT LENGTH (HALF-WAVE) ACT AS INDUCTIVE LOADS TO THE GENERATOR	8	0	10	11	6	5	10	0	17	18	0
0 927	03-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE LONGER THAN A HALF-WAVE ACT AS INDUCTIVE LOADS TO THE GENERATOR	8	0	8	7	13	3	10	0	11	12	0
0 928	03-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE SHORTER THAN A HALF-WAVE ACT AS CAPACITIVE LOADS TO THE GENERATOR	8	0	7	4	13	0	10	0	11	12	0
0 929	03-16 DO YOU WORK WITH HERTZ ANTENNAS	25	8	7	4	13	0	10	20	11	12	0
0 930	03-17 DO YOU WORK WITH MARCONI ANTENNAS	8	8	0	0	0	0	0	0	6	6	0
0 931	03-18 DO YOU WORK WITH BROADSIDE ARRAYS	8	8	5	4	6	5	10	0	6	6	0
0 932	03-19 DO YOU WORK WITH END-FIRE ARRAYS	25	0	7	4	13	0	10	20	6	6	0
0 933	03-20 DO YOU WORK WITH CARDIOID ARRAYS	8	0	2	0	6	0	10	0	6	6	0
0 934	03-21 DO YOU WORK WITH COLLINEAR ARRAYS	8	15	11	7	25	11	20	20	11	12	0
0 935	03-22 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC INDUCTION FIELDS WHEN WORKING WITH ANTENNAS	17	15	8	4	19	3	20	0	11	12	0
0 936	03-23 DO YOU MEASURE ELECTROMAGNETIC INDUCTION FIELDS OF ANTENNAS	17	8	7	2	19	3	20	0	11	12	0
0 937	03-24 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC RADIATION FIELDS WHEN WORKING WITH ANTENNAS	25	15	11	4	31	3	30	0	11	12	0
0 938	03-25 DO YOU MEASURE ELECTROMAGNETIC RADIATION FIELDS OF ANTENNAS	8	8	8	7	13	5	20	0	11	12	0
0 939	03-26 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA RADIATION	17	8	10	4	25	0	40	0	11	12	0
0 940	03-27 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA INDUCTION FIELD	17	8	7	2	19	0	30	0	11	12	0
0 941	03-28 ARE ANY OF THE ANTENNAS YOU WORK ON LINEARLY POLARIZED	67	96	52	49	63	51	80	20	56	59	0
0 942	03-29 ARE ANY OF THE ANTENNAS YOU WORK ON CIRCULARLY POLARIZED	83	96	57	56	63	57	80	20	56	59	0
0 943	03-30 DO YOU MEASURE OR DETERMINE THE POLARITY OF ANTENNAS YOU WORK ON	58	8	38	38	38	43	90	0	17	18	0
0 944	03-31 DO YOU CONSTRUCT, OR MAKE THE CALCULATIONS NECESSARY TO CONSTRUCT, ANTENNAS OF CORRECT LENGTH FOR SPECIFIC WAVELENGTHS	0	0	2	0	6	0	10	0	11	12	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236
0	945	03-32 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS	17	15	16	9	38	8	30	40	6	6	0
0	946	03-33 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS DIRECTORS	17	23	15	7	38	8	30	20	6	6	0
0	947	03-34 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS REFLECTORS	17	23	15	11	25	11	10	20	6	6	0
0	948	03-35 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN DON'T REMEMBER WHAT KIND OF ELEMENTS	50	38	33	36	25	38	30	40	22	29	0
0	949	03-36 DO YOU WORK ON UNIDIRECTIONAL ANTENNAS	25	46	26	18	50	19	40	60	22	29	0
0	850	03-37 DO YOU WORK ON BIDIRECTIONAL ANTENNAS	17	0	15	13	19	16	20	0	6	6	0
0	851	03-38 DO YOU WORK ON DON'T REMEMBER THE DIRECTIONALITY	33	46	23	27	13	22	30	0	11	12	0
0	852	03-39 DO YOU WORK WITH ROTAR ANTENNA ARRAYS	25	8	18	13	31	16	30	20	6	6	0
P	953	P1-01 IN YOUR PRESENT JOB DO YOU WORK WITH TRANSMISSION LINES (TRANSMISSION LINES ARE DEFINED TO INCLUDE LEADS BETWEEN RECEIVERS AND ANTENNAS, TELEPHONE LEADS, AS WELL AS HIGH VOLTAGE POWER LINES, ETC. DO NOT CONSIDER WAVEGUIDES AS TRANSMISSION LINES	17	23	18	18	19	24	20	0	11	12	0
P	954	P1-02 DO YOU REFER TO OR USE COPPER LOSS OR I2R LOSS IN TRANSMISSION LINES	0	0	5	4	6	5	10	0	0	0	0
P	955	P1-03 DO YOU REFER TO OR USE SKIN EFFECTS OF HIGH FREQUENCY CURRENTS IN TRANSMISSION LINES	0	0	7	7	6	8	10	0	0	0	0
P	956	P1-04 DO YOU REFER TO OR USE RADIATION LOSS IN TRANSMISSION LINES	8	8	7	7	6	8	10	0	6	6	0
P	957	P1-05 DO YOU USE OR REFER TO DIELECTRIC LOSS IN TRANSMISSION LINES	8	0	5	7	0	8	0	0	0	0	0
P	958	P1-06 DO YOU USE OR REFER TO LEAKAGE LOSSES IN TRANSMISSION LINES	8	23	7	4	13	8	10	0	6	6	0
P	959	P1-07 DO YOU WORK WITH TWISTED PAIR TRANSMISSION LINES	0	0	3	2	6	3	0	0	0	0	0
P	960	P1-08 DO YOU WORK WITH TWIN LEAD TRANSMISSION LINES	0	0	3	2	6	3	0	0	0	0	0
P	961	P1-09 DO YOU WORK WITH OPEN TWO-WIRE TRANSMISSION LINES	0	0	3	2	6	3	0	0	0	0	0
P	962	P1-10 DO YOU WORK WITH FLEXIBLE COAXIAL CABLE TRANSMISSION LINES	8	23	13	16	6	22	0	0	6	6	0
P	963	P1-11 DO YOU WORK WITH RIGID COAXIAL CABLE TRANSMISSION LINES	8	8	13	16	6	19	0	0	0	0	0
P	964	P1-12 DO YOU TROUBLESHOOT TRANSMISSION LINES	8	23	8	11	0	14	0	0	6	6	0
P	965	P1-13 DO YOU ANALYZE VOLTAGE OR CURRENT WAVEFORMS IN TRANSMISSION LINES TO DETERMINE THE TYPE OF TERMINATION (OPEN, SHORTED, CAPACITIVE, INDUCTIVE)	8	0	2	2	0	3	0	0	0	0	0
P	966	P1-14 DO YOU SELECT APPROPRIATE TRANSMISSION LINES TERMINATIONS TO ACHIEVE DESIRED WAVEFORMS	8	0	2	2	0	0	0	0	0	0	0
P	967	P1-15 DO YOU USE OR REFER TO SCHEMATIC SYMBOLS FOR LINE TERMINATIONS IN TERMS OF CIRCUIT TERMINATIONS	8	0	3	4	0	3	0	0	0	0	0
P	968	P1-16 DO YOU MEASURE STANDING WAVE RATIOS (SR) OF TRANSMISSION LINES	8	0	7	9	0	8	0	0	0	0	0
P	969	P1-17 DO YOU CALCULATE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES	8	0	3	4	0	3	0	0	0	0	0
P	970	P1-18 DO YOU PERFORM THE CALCULATIONS NECESSARY TO DETERMINE THE IMPEDANCE AND LENGTH OF QUARTER - WAVELENGTH MATCHING TRANSFORMERS TO MATCH TRANSMISSION LINES TO LOADS	8	0	0	0	0	0	0	0	0	0	0

TRANSMISSION LINES

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
P 971	P1-19 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING MATCHING TRANSFORMERS	0	15	2	2	0	0	0	0	0	0	0	
P 972	P1-20 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING DELTA MATCHING	0	0	2	2	0	0	0	0	0	0	0	
P 973	P1-21 DO YOU SELECT THE TYPE OF TRANSMISSION LINE NEEDED FOR PARTICULAR JOBS WITHOUT REFERRING TO TECHNICAL DATA	0	15	2	2	0	0	0	0	0	0	0	
P 974	P1-22 DO YOU USE OR REFER TO THE TERM CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES	0	8	3	4	0	3	0	0	0	0	0	
P 975	P1-23 DO YOU CALCULATE THE CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES	0	0	2	2	0	0	0	0	0	0	0	
P 976	P1-24 DO YOU USE OR REFER TO THE TERM CUTOFF FREQUENCY OF TRANSMISSION LINES	0	0	3	4	0	3	0	0	0	0	0	
P 977	P1-25 DO YOU USE OR REFER TO THE TERM VELOCITY FACTOR (K) OF TRANSMISSION LINES	0	0	2	2	0	0	0	0	0	0	0	
P 978	P1-26 DO YOU COMPUTE THE ELECTRICAL LENGTH OF TRANSMISSION LINES FOR PARTICULAR FREQUENCIES	0	0	3	4	0	3	0	0	0	0	0	
P 979	P1-27 DO YOU CONSTRUCT TRANSMISSION LINES OF PARTICULAR ELECTRICAL LENGTH FOR GIVEN FREQUENCIES	0	0	2	2	0	0	0	0	0	0	0	
P 980	P1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT AS THE FREQUENCY INCREASES AND THE PHYSICAL LENGTH OF TRANSMISSION LINES REMAIN CONSTANT, THE ELECTRICAL LENGTH INCREASES	0	0	2	2	0	0	0	0	0	0	0	
P 981	P1-29 DO YOU WORK WITH NONRESONANT (FLAT) TRANSMISSION LINES	0	0	3	2	6	3	0	0	0	0	0	
P 982	P1-30 DO YOU WORK WITH RESONANT TRANSMISSION LINES	0	0	7	7	6	8	0	0	6	6	0	
P 983	P1-31 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING STUB MATCHING	0	0	3	4	0	3	0	0	0	0	0	
P 984	P2-01 DO YOU WORK WITH WAVEGUIDES OR CAVITY RESONATORS IN YOUR PRESENT JOB	83	77	74	69	88	70	80	100	67	71	0	
P 985	P2-02 DO YOU INSPECT WAVEGUIDES OR CAVITY RESONATORS	83	77	70	67	81	70	70	100	56	59	0	
P 986	P2-03 DO YOU CLEAN WAVEGUIDES OR CAVITY RESONATORS	58	54	44	40	56	41	50	60	44	47	0	
P 987	P2-04 DO YOU BEND WAVEGUIDES OR CAVITY RESONATORS	25	8	13	13	13	8	0	40	6	6	0	WAVEGUIDES AND CAVITY RESONATORS
P 988	P2-05 DO YOU TWIST WAVEGUIDES OR CAVITY RESONATORS	25	8	8	7	13	3	0	40	6	6	0	
P 989	P2-06 DO YOU PRESSURIZE WAVEGUIDES OR CAVITY RESONATORS	83	77	69	62	88	62	80	100	72	76	0	
P 990	P2-07 DO YOU PURGE WAVEGUIDES OR CAVITY RESONATORS	8	0	16	16	19	11	0	60	28	29	0	
P 991	P2-08 DO YOU TROUBLESHOOT WAVEGUIDES OR CAVITY RESONATORS	75	54	62	56	81	54	70	80	61	65	0	
P 992	P2-09 DO YOU REMOVE OR INSTALL COMPLETE WAVEGUIDES	75	77	70	64	88	68	80	100	61	65	0	
P 993	P2-10 DO YOU REMOVE OR INSTALL WAVEGUIDE SECTIONS	75	69	67	62	81	65	80	80	67	71	0	
P 994	P2-11 DO YOU REMOVE OR INSTALL DUMMY LOADS	67	54	54	51	63	49	70	60	72	76	0	
P 995	P2-12 DO YOU REMOVE OR INSTALL E BENDS	33	15	26	29	31	19	30	40	6	6	0	
P 996	P2-13 DO YOU REMOVE OR INSTALL H BENDS	25	15	25	24	25	22	30	20	11	12	0	
P 997	P2-14 DO YOU REMOVE OR INSTALL OTHER BENDS	58	38	30	31	25	27	20	40	33	35	0	
P 998	P2-15 DO YOU REMOVE OR INSTALL CHOKE JOINTS	17	23	18	18	19	19	0	40	17	18	0	
P 999	P2-16 DO YOU REMOVE OR INSTALL ROTATING JOINTS	67	62	39	36	50	35	50	40	44	47	0	
P1000	P2-17 DO YOU REMOVE OR INSTALL DIRECTIONAL COUPLERS	75	62	44	42	69	41	70	60	22	24	0	
P1001	P2-18 DO YOU REMOVE OR INSTALL BIDIRECTIONAL COUPLERS	42	46	33	33	31	30	30	40	11	12	0	
P1002	P2-19 DO YOU USE OR REFER TO "A" WALL OF WAVEGUIDES	17	0	10	11	6	8	0	0	0	0	0	

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS GPSM4C PAGE 36

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236
P1003 P2-20 DO YOU USE OR REFER TO "B" WALL OF WAVEGUIDES	17	0	10	11	6	8	0	0	0	0	0
P1004 P2-21 DO YOU USE OR REFER TO CUTOFF FREQUENCY OF WAVEGUIDES	17	0	8	11	0	11	0	0	0	0	0
P1005 P2-22 DO YOU USE OR REFER TO FREQUENCY-DETERMINING WALL OF WAVEGUIDES	17	0	5	7	0	3	0	0	0	0	0
P1006 P2-23 DO YOU USE OR REFER TO POWER-DETERMINING WALL OF WAVEGUIDES	17	0	5	7	0	3	0	0	0	0	0
P1007 P2-24 DO YOU USE OR REFER TO ELECTRIC FIELD BOUNDARY CONDITIONS	17	0	8	11	0	8	0	0	0	0	0
P1008 P2-25 DO YOU USE OR REFER TO MAGNETIC FIELD BOUNDARY CONDITIONS	17	0	8	11	0	8	0	0	0	0	0
P1009 P2-26 DO YOU USE OR REFER TO DUPLEXER FIELD BOUNDARY CONDITIONS	25	0	7	9	0	3	0	0	0	0	0
P1010 P2-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST WAVEGUIDES ARE MADE WITH A "B" WALL SIZE OF .7 WAVELENGTHS OF THE OPERATING FREQUENCY	25	0	3	4	0	0	0	0	0	0	0
P1011 P2-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST "A" WALLS RANGE FROM .2 TO .5 WAVELENGTHS IN SIZE, WITH .35 USED AS AN AVERAGE	25	0	3	4	0	3	0	0	0	0	0
P1012 P2-29 ARE YOU CONCERNED WITH THE MATERIAL (SUCH AS BRASS) WHICH WAVEGUIDES ARE MADE OF	8	0	3	4	0	3	0	0	6	6	0
P1013 P2-30 DO YOU COMPUTE THE LENGTH OF A WAVEGUIDE FOR SPECIFIC INSTALLATION	8	0	3	4	0	3	0	0	0	0	0
P1014 P2-31 DO YOU USE THE RIGHT HAND RULE TO DETERMINE THE DIRECTION OF PROPAGATION, DIRECTION OF "E" FIELD, OR DIRECTION OF "H" FIELD IN WAVEGUIDES	8	0	2	2	0	0	0	0	0	0	0
P1015 P2-32 DO YOU USE OR REFER TO THE TIME PHASE OF PEAK "E" OR "H" LINES IN WAVEGUIDES	8	0	2	2	0	0	0	0	0	0	0
P1016 P2-33 DO YOU MEASURE THE TIME PHASE OF "E" OR "H" LINES IN WAVEGUIDES	8	0	2	2	0	0	0	0	0	0	0
P1017 P2-34 DO YOU USE OR REFER TO THE SPACE QUADRATURE OF "E" OR "H" LINES IN WAVEGUIDES	8	0	2	2	0	0	0	0	0	0	0
P1018 P2-35 ARE HIGH POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	42	23	25	22	31	16	20	40	6	6	0
P1019 P2-36 ARE LOW POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	25	23	16	16	19	19	20	0	0	0	0
P1020 P2-37 ARE LOOPS USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	8	0	15	11	25	19	20	0	0	0	0
P1021 P2-38 ARE APERTURES (WINDOWS OR IRISES) USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	50	31	23	22	25	16	40	0	0	0	0
P1022 P2-39 ARE DON'T REMEMBER THE KIND OF ENERGY COUPLING USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	50	38	25	29	25	29	30	20	33	35	0
P1023 P2-40 DO YOU DETERMINE WHERE PROBES SHOULD BE MOUNTED IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	8	0	2	2	0	0	0	0	0	0	0
P1024 P2-41 DO YOU DETERMINE THE POSITIONING OF LOOPS IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	8	0	2	2	0	0	0	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
P1025	P2-42 DO YOU DETERMINE THE POSITIONING OR SIZE OF APERTURES IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	8	0	2	2	0	0	0	0	0	0	0	
P1026	P2-43 ARE CHOKE JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	17	23	13	16	6	16	0	20	6	6	0	
P1027	P2-44 ARE ROTATING JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	67	54	41	36	56	32	50	60	56	59	0	
P1028	P2-45 ARE DON'T REMEMBER THE KIND OF JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	42	23	23	24	19	27	20	20	17	18	0	
P1029	P2-46 DO YOU TUNE CAVITY RESONATORS USING CAPACITIVE TUNING	33	0	21	16	38	19	50	20	6	6	0	
P1030	P2-47 DO YOU TUNE CAVITY RESONATORS USING INDUCTIVE TUNING	17	0	13	11	19	8	20	20	6	6	0	
P1031	P2-48 DO YOU TUNE CAVITY RESONATORS USING VOLUME TUNING	17	15	20	16	31	16	30	40	11	12	0	
P1032	P2-49 DO YOU TUNE CAVITY RESONATORS USING DON'T REMEMBER THE METHOD OF TUNING	25	46	28	31	19	30	30	0	17	18	0	
P1033	P2-50 DO YOU MEASURE THE FREQUENCY OF SIGNALS IN CAVITY RESONATORS	42	23	34	29	50	32	30	60	11	12	0	
P1034	P3-01 IN YOUR PRESENT JOB DO YOU WORK WITH KLYSTRONS, TRAVELING WAVE TUBES (TWT), PARAMETRIC AMPLIFIERS, OR MAGNETRONS	67	62	64	58	81	59	70	100	61	65	0	
P1035	P3-02 DO YOU USE OR REFER TO INTERELECTRODE CAPACITANCE	8	0	10	11	6	8	0	0	6	6	0	
P1036	P3-03 DO YOU USE OR REFER TO ELECTRON TRANSIT TIME	0	8	8	9	6	8	0	0	6	6	0	MICROWAVE AMPLIFIERS AND OSCILLATORS
P1037	P3-04 DO YOU USE OR REFER TO LEAD INDUCTANCE	8	8	5	7	0	5	0	0	6	6	0	
P1038	P3-05 DO YOU USE OR REFER TO RF LOSSES IN EXTERNAL CIRCUITRY	17	23	25	24	25	16	50	0	11	12	0	
P1039	P3-06 DO YOU USE OR REFER TO PRINCIPLE OF ELECTRON VELOCITY MODULATION	8	8	7	7	6	5	0	0	0	0	0	
P1040	P3-07 DO YOU USE OR REFER TO ELECTRON BUNCHING	8	8	5	9	6	3	0	0	0	0	0	
P1041	P3-08 DO YOU WORK WITH TWO-CAVITY KLYSTRONS	17	31	13	11	19	11	20	0	0	0	0	
P1042	P3-09 DO YOU WORK WITH THREE-CAVITY KLYSTRONS	0	8	13	13	13	19	20	0	0	0	0	
P1043	P3-10 DO YOU WORK WITH REFLEX KLYSTRONS	58	31	39	36	50	32	50	40	0	0	0	
P1044	P3-11 DO YOU WORK WITH TRAVELING-WAVE TUBES (TWT)	8	0	8	9	6	11	10	0	0	0	0	
P1045	P3-12 DO YOU WORK WITH NONDEGENERATIVE PARAMETRIC AMPLIFIERS	8	0	15	13	19	8	20	20	0	0	0	
P1046	P3-13 DO YOU WORK WITH UP-CONVERTER PARAMETRIC AMPLIFIERS	8	0	13	18	0	14	0	0	0	0	0	
P1047	P3-14 DO YOU WORK WITH MAGNETRONS	67	62	66	60	81	59	70	100	56	59	0	
P1048	P3-15 DO YOU INSPECT KLYSTRONS OR TWT	58	38	44	38	63	38	50	60	0	0	0	
P1049	P3-16 DO YOU CLEAN KLYSTRONS OR TWT	17	31	18	20	13	14	0	40	0	0	0	
P1050	P3-17 DO YOU TUNE KLYSTRONS OR TWT ELECTRICALLY	33	31	56	49	75	51	60	80	0	0	0	
P1051	P3-18 DO YOU TUNE KLYSTRONS OR TWT MECHANICALLY	50	54	54	49	69	49	70	60	0	0	0	
P1052	P3-19 DO YOU PERFORM OPERATIONAL CHECKS OF KLYSTRONS OR TWT	58	38	57	53	69	57	50	80	0	0	0	
P1053	P3-20 DO YOU TROUBLESHOOT KLYSTRONS OR TWT	42	23	46	42	56	46	40	60	0	0	0	
P1054	P3-21 DO YOU REMOVE OR REPLACE COMPLETE KLYSTRON OR TWT	50	46	54	49	69	46	60	100	0	0	0	
P1055	P3-22 DO YOU REMOVE OR REPLACE KLYSTRON OR TWT COMPONENTS	33	0	7	9	0	8	0	0	0	0	0	
P1056	P3-23 DO YOU INSPECT PARAMETRIC AMPLIFIERS	8	0	23	22	25	19	30	20	0	0	0	
P1057	P3-24 DO YOU CLEAN PARAMETRIC AMPLIFIERS	8	0	11	13	6	8	0	20	0	0	0	
P1058	P3-25 DO YOU ADJUST PARAMETRIC AMPLIFIERS	8	0	30	27	38	24	50	20	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236
P1059	P3-26 DO YOU TUNE PARAMETRIC AMPLIFIERS	8	0	23	18	38	16	50	20	0	0	0
P1060	P3-27 DO YOU PERFORM OPERATIONAL CHECKS OF PARAMETRIC AMPLIFIERS	8	0	31	29	38	27	40	40	0	0	0
P1061	P3-28 DO YOU TROUBLESHOOT PARAMETRIC AMPLIFIERS	8	0	28	24	38	22	40	40	0	0	0
P1062	P3-29 DO YOU REMOVE OR REPLACE COMPLETE PARAMETRIC AMPLIFIER	8	0	33	31	38	30	50	20	0	0	0
P1063	P3-30 DO YOU REMOVE OR REPLACE PARAMETRIC AMPLIFIER COMPONENTS	8	0	7	7	6	5	0	20	0	0	0
P1064	P3-31 DO YOU INSPECT MAGNETRONS	58	46	51	42	75	43	60	80	44	47	0
P1065	P3-32 DO YOU CLEAN MAGNETRONS	17	38	20	22	13	16	10	20	39	41	0
P1066	P3-33 DO YOU ADJUST MAGNETRONS	58	62	59	51	81	51	60	100	28	29	0
P1067	P3-34 DO YOU TUNE MAGNETRONS	58	54	57	53	69	54	50	80	33	35	0
P1068	P3-35 DO YOU PERFORM OPERATIONAL CHECKS OF MAGNETRONS	67	54	64	58	81	59	60	100	61	65	0
P1069	P3-36 DO YOU TROUBLESHOOT MAGNETRONS	50	23	44	42	69	46	50	80	44	47	0
P1070	P3-37 DO YOU REMOVE OR REPLACE COMPLETE MAGNETRON	58	38	52	44	75	46	60	80	50	53	0
P1071	P3-38 DO YOU REMOVE OR REPLACE MAGNETRON COMPONENTS	0	0	10	9	13	8	10	20	11	12	0
P1072	P3-39 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS COLLECTOR PLATES	8	0	8	9	6	8	0	0	0	0	0
P1073	P3-40 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER CAVITIES	8	0	5	4	6	3	0	0	0	0	0
P1074	P3-41 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER GRIDS	8	0	3	4	0	3	0	0	0	0	0
P1075	P3-42 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS FEEDBACK LOOPS	8	0	15	13	19	14	10	20	0	0	0
P1076	P3-43 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS DRIFT SPACES	8	0	5	4	6	3	0	0	0	0	0
P1077	P3-44 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER GRIDS	8	0	3	4	0	3	0	0	0	0	0
P1078	P3-45 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER CAVITIES	8	0	5	4	6	3	0	0	0	0	0
P1079	P3-46 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CONTROL GRIDS	8	0	13	13	13	14	10	0	0	0	0
P1080	P3-47 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATHODES	17	0	15	16	13	16	10	0	0	0	0
P1081	P3-48 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON REPELLER (REFLECTOR) PLATES	33	31	44	42	50	43	40	60	0	0	0
P1082	P3-49 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRIDS	17	8	18	18	19	19	20	0	0	0	0
P1083	P3-50 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRID CAVITY GAPS	17	0	13	16	6	19	0	20	0	0	0
P1084	P3-51 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON RESONANT CAVITIES	33	15	31	33	25	35	10	40	0	0	0
P1085	P3-52 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON MAGNETIC COUPLING LOOPS	17	0	16	16	19	19	20	20	0	0	0
P1086	P3-53 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON FILAMENTS	33	15	20	22	13	19	0	20	0	0	0
P1087	P3-54 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON CATHODES	33	8	28	29	25	29	30	20	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236
P1088	P3-55 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON OUTPUT LEADS	33	15	20	18	25	14	20	20	0	0	0
P1089	P3-56 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES FILAMENTS	8	0	7	9	0	8	0	0	0	0	0
P1090	P3-57 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES CATHODES	8	0	5	7	0	5	0	0	0	0	0
P1091	P3-58 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MODULATOR GRIDS	8	0	3	4	0	3	0	0	0	0	0
P1092	P3-59 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ANODES	8	0	2	2	0	0	0	0	0	0	0
P1093	P3-60 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES HELIXES	8	0	3	4	0	3	0	0	0	0	0
P1094	P3-61 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES COLLECTORS	8	0	3	4	0	3	0	0	0	0	0
P1095	P3-62 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MAGNETS	8	0	2	2	0	0	0	0	0	0	0
P1096	P3-63 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ATTENUATORS	25	0	5	7	0	8	0	0	6	6	0
P1097	P3-64 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE CIRCULATORS	8	0	8	7	13	5	0	20	0	0	0
P1098	P3-65 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER SIGNAL CAVITIES	8	0	3	4	0	3	0	0	0	0	0
P1099	P3-66 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER IDLER CAVITIES	8	0	2	2	0	0	0	0	0	0	0
P1100	P3-67 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER VARACTOR DIODES	17	0	8	9	6	5	0	0	0	0	0
P1101	P3-68 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE ISOLATORS	17	0	8	7	13	5	0	20	0	0	0
P1102	P3-69 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER REVERSE-BIAS BATTERIES	8	0	0	0	0	0	0	0	0	0	0
P1103	P3-70 DO YOU PERFORM TASKS ON ANODES	8	0	8	7	13	5	0	20	11	12	0
P1104	P3-71 DO YOU PERFORM TASKS ON ANODE COOLING PINS	8	0	2	2	0	3	0	0	11	12	0
P1105	P3-72 DO YOU PERFORM TASKS ON COUPLING LOOPS	8	0	7	9	0	8	0	0	6	6	0
P1106	P3-73 DO YOU PERFORM TASKS ON HEATER LEADS	8	8	10	11	6	8	0	0	11	12	0
P1107	P3-74 DO YOU PERFORM TASKS ON RESONANT CAVITIES	8	8	13	13	13	14	0	20	6	6	0
P1108	P3-75 DO YOU PERFORM TASKS ON CATHODES	8	0	5	4	6	5	0	0	11	12	0
P1109	P3-76 DO YOU PERFORM TASKS ON MAGNETS	8	0	8	9	6	8	0	0	11	12	0
Q1110	Q1-01 DO YOU USE OR REFER TO STORAGE REGISTERS	8	0	10	11	6	11	0	20	17	18	0
Q1111	Q1-02 DO YOU USE OR REFER TO SHIFT REGISTERS	8	0	8	9	6	8	0	20	17	18	0
Q1112	Q1-03 DO YOU USE OR REFER TO LOGIC SYMBOLS OF SHIFT REGISTERS	8	0	8	9	6	8	0	20	17	18	0
Q1113	Q1-04 DO YOU USE OR REFER TO LOGIC SYMBOLS OF STORAGE REGISTERS	8	0	8	9	6	8	0	20	17	18	0
Q1114	Q1-05 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	8	0	8	9	6	8	0	20	17	18	0
Q1115	Q1-06 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF REGISTERS	8	0	10	11	6	11	0	20	17	18	0

REGISTERS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 239	SPC 235	SPC 236	
Q1116	Q1-07 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP OF A SHIFT REGISTER AFTER A SPECIFIED NUMBER OF SHIFT PULSES HAVE PASSED	8	0	8	9	6	8	0	20	11	12	0	
Q1117	Q2-01 DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR STORAGE DEVICES IN YOUR PRESENT JOB	17	0	11	11	13	8	20	20	33	35	0	
Q1118	Q2-02 DO YOU USE OR REFER TO DELAY LINES	33	0	8	9	6	5	10	20	6	6	0	STORAGE DEVICES
Q1119	Q2-03 DO YOU USE OR REFER TO MAGNETIC CORES	8	0	7	7	6	5	0	20	22	24	0	
Q1120	Q2-04 DO YOU USE OR REFER TO MAGNETIC DRUMS	8	0	7	7	6	5	0	20	6	6	0	
Q1121	Q2-05 DO YOU USE OR REFER TO MAGNETIC TAPES	8	0	8	7	13	5	10	20	11	12	0	
Q1122	Q2-06 DO YOU USE OR REFER TO ACCESS TIME OR SPEED OR MEMORY SYSTEMS	8	0	7	7	6	5	0	20	17	18	0	
Q1123	Q2-07 DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY SYSTEMS	8	0	3	4	0	5	0	0	22	24	0	
Q1124	Q2-08 DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS	8	0	5	7	0	5	0	0	11	12	0	
Q1125	Q2-09 DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES	8	0	7	7	4	5	0	20	6	6	0	
Q1126	Q3-01 IN YOUR PRESENT JOB, DO YOU WORK WITH DIGITAL-TO-ANALOG (D/A) CONVERTERS, ANALOG-TO-DIGITAL (A/D) CONVERTERS, OR BINARY-TO-DECIMAL READOUT CONVERTERS	8	0	8	9	6	8	0	20	39	41	0	
Q1127	Q3-02 DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT VOLTAGES	8	0	5	7	0	5	0	0	11	12	0	DIGITAL TO ANALOG CONVERTERS
Q1128	Q3-03 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE COUNT IN ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS IS DETERMINED BY ADDING THE DENOMINATORS OF THE RESISTORS	8	0	5	7	0	5	0	0	11	12	0	
Q1129	Q3-04 DO YOU COMPUTE ANALOG VOLTAGES FOR GIVEN BINARY COUNTS IN ELECTRONIC DIGITAL-TO-ANALOG (D/A) CONVERTERS	8	0	5	7	0	5	0	0	11	12	0	
Q1130	Q3-05 DO YOU PERFORM SAMPLE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	8	0	7	7	6	5	0	20	11	12	0	
Q1131	Q3-06 DO YOU PERFORM HOLD FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	8	0	5	4	6	5	0	20	11	12	0	
Q1132	Q3-07 DO YOU PERFORM COMPARE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	8	0	7	7	6	5	0	20	11	12	0	
Q1131	Q3-08 DO YOU PERFORM DIGITIZE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	8	0	7	7	6	5	0	20	11	12	0	
Q1134	Q3-09 DO YOU PERFORM DON'T REMEMBER WHICH FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	8	0	5	4	6	3	0	20	17	18	0	
Q1135	Q3-10 DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D CONVERTERS	8	0	7	7	6	5	0	20	17	18	0	
Q1136	Q3-11 DO YOU USE OR REFER TO HOLD FUNCTION OF A/D CONVERTERS	8	0	7	7	6	5	0	20	17	18	0	
Q1137	Q3-12 DO YOU USE OR REFER TO COMPARE FUNCTION OF A/D CONVERTERS	8	0	7	7	6	5	0	20	17	18	0	
Q1138	Q3-13 DO YOU USE OR REFER TO DIGITAL FUNCTION OF A/D CONVERTERS	8	0	7	7	6	5	0	20	11	12	0	
Q1139	Q3-14 DO YOU PERFORM ANY TASKS ON MECHANICAL ANALOG-TO-DIGITAL (A/D) CONVERTERS	8	0	5	4	6	3	0	20	11	12	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
R1140	R1-01 DO YOU WORK WITH PHANTASTRON CIRCUITRY IN YOUR PRESENT JOB	8	0	3	9	0	3	0	0	6	0	100	PHANTASTRONS
R1141	R2-01 IN YOUR PRESENT JOB DO YOU WORK WITH SCHMITT TRIGGER CIRCUITS	17	0	10	11	6	11	10	0	6	0	100	SCHMITT TRIGGERS
R1142	R2-02 DO YOU TRACE DATA FLOW THROUGH SCHMITT TRIGGER SCHEMATIC DIAGRAMS	8	0	8	9	6	8	10	0	6	0	100	
R1143	R2-03 DO YOU USE OR REFER TO SCHMITT TRIGGER LOGIC SYMBOLS	8	0	8	9	6	8	10	0	6	0	100	
R1144	R3-01 IN YOUR PRESENT JOB DO YOU FABRICATE MULTICONDUCTOR CABLES	33	23	21	22	19	24	10	20	22	24	0	CABLE FABRICATION
R1145	R3-02 DO YOU FABRICATE COAXIAL CABLES	58	46	36	36	38	35	40	40	22	24	0	
S1146	S1-01 IN YOUR PRESENT JOB DO YOU PERFORM ANY TASKS ON VISUAL READOUT SYSTEMS	8	0	26	20	44	22	40	40	22	24	0	
S1147	S1-02 DO YOU PERFORM ANY TASKS ON NIXIE LIGHTS OR NIXIE LIGHT DECODER SYSTEMS	0	0	2	2	0	3	0	0	0	0	0	INPUT/OUTPUT DEVICES
S1148	S1-03 DO YOU ANALYZE NIXIE LIGHT DECODER SYSTEMS USING BOOLEAN ALGEBRA	0	0	2	2	0	3	0	0	0	0	0	
S1149	S2-01 DO YOU WORK WITH PHOTO TUBES IN YOUR PRESENT JOB	0	0	2	2	0	3	0	0	6	0	100	PHOTO SENSITIVE DEVICES
S1150	S3-01 IN YOUR PRESENT JOB DO YOU WORK WITH CHOPPER CIRCUITS	42	31	16	13	25	8	30	20	6	0	100	
S1151	S3-02 DO YOU MEASURE EXCITATION FREQUENCIES	8	0	15	11	25	8	20	20	6	0	100	
S1152	S3-03 DO YOU MEASURE VOLTAGE-CURRENT PHASE RELATIONSHIPS	8	0	13	9	25	8	20	20	6	0	100	
S1153	S3-04 DO YOU USE OR REFER TO EXCITATION FREQUENCIES	8	0	15	11	25	5	20	20	6	0	100	
S1154	S3-05 DO YOU USE OR REFER TO VOLTAGE-CURRENT PHASE RELATIONSHIPS	8	0	13	9	25	5	20	20	6	0	100	
S1155	S3-06 DO YOU USE SERVOS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	33	0	16	13	25	8	20	20	0	0	0	SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)
S1156	S3-07 DO YOU USE DETECTORS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	33	15	15	11	25	5	20	20	6	0	100	
S1157	S3-08 DO YOU USE ERROR SIGNAL DEVICES IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	25	23	15	11	25	5	20	20	6	0	100	
S1158	S3-09 DO YOU USE COMPARISON CIRCUITS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	25	15	15	11	25	5	20	20	6	0	100	
T1159	T1-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH INFRARED SYSTEMS	0	0	3	9	0	0	0	0	0	0	0	
T1160	T1-02 DO YOU INSPECT INFRARED SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	
T1161	T1-03 DO YOU CLEAN INFRARED SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	INFRARED
T1162	T1-04 DO YOU ADJUST OR CALIBRATE INFRARED SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	
T1163	T1-05 DO YOU OPERATE INFRARED SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	
T1164	T1-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF INFRARED SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	
T1165	T1-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF INFRARED SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	
T1166	T1-08 DO YOU TROUBLESHOOT DOWN TO INFRARED SYSTEM COMPONENT PARTS	0	0	0	0	0	0	0	0	0	0	0	
T1167	T1-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF INFRARED SYSTEMS	0	0	0	0	0	0	0	0	0	0	0	
T1168	T1-10 DO YOU REMOVE OR REPLACE INFRARED SYSTEM COMPONENT PARTS	0	0	0	0	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236
T1169	T1-11 DO YOU USE OR REFER TO FAR REGION	0	0	0	0	0	0	0	0	0	0	0
T1170	T1-12 DO YOU USE OR REFER TO INTERMEDIATE REGION	0	0	0	0	0	0	0	0	0	0	0
T1171	T1-13 DO YOU USE OR REFER TO NEAR REGION	0	0	0	0	0	0	0	0	0	0	0
T1172	T1-14 DO YOU USE OR REFER TO MICRON	0	0	2	2	0	0	0	0	0	0	0
T1173	T1-15 DO YOU USE OR REFER TO GRAY BODIES	0	0	2	2	0	0	0	0	0	0	0
T1174	T1-16 DO YOU USE OR REFER TO BLACK BODIES	0	0	2	2	0	0	0	0	0	0	0
T1175	T1-17 DO YOU USE OR REFER TO ABSORPTION	0	0	2	2	0	0	0	0	0	0	0
T1176	T1-18 DO YOU USE OR REFER TO SCATTERING	0	0	2	2	0	0	0	0	0	0	0
T1177	T1-19 DO YOU USE OR REFER TO ABSOLUTE ZERO	0	0	2	2	0	0	0	0	0	0	0
T1178	T1-20 DO YOU PERFORM TASKS ON BLITZ	0	0	0	0	0	0	0	0	0	0	0
T1179	T1-21 DO YOU PERFORM TASKS ON TARGET BUTTONS	0	0	0	0	0	0	0	0	0	0	0
T1180	T1-22 DO YOU PERFORM TASKS ON ERECTON LENSES	0	0	0	0	0	0	0	0	0	0	0
T1181	T1-23 DO YOU PERFORM TASKS ON OCULAR LENSES	0	0	0	0	0	0	0	0	0	0	0
T1182	T1-24 DO YOU PERFORM TASKS ON CORRECTION LENSES	0	0	0	0	0	0	0	0	0	0	0
T1183	T1-25 DO YOU PERFORM TASKS ON FILTERS	0	0	0	0	0	0	0	0	0	0	0
T1184	T1-26 DO YOU PERFORM TASKS ON SPHERICAL MIRRORS	0	0	0	0	0	0	0	0	0	0	0
T1185	T1-27 DO YOU PERFORM TASKS ON PLANE MIRRORS	0	0	0	0	0	0	0	0	0	0	0
T1186	T2-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH LASERS	0	0	3	4	0	0	0	0	0	0	0
T1187	T2-02 DO YOU INSPECT LASER SYSTEMS	0	0	2	2	0	0	0	0	0	0	0
T1188	T2-03 DO YOU CLEAN LASER SYSTEMS	0	0	2	2	0	0	0	0	0	0	0
T1189	T2-04 DO YOU OPERATE LASER SYSTEMS	0	0	2	2	0	0	0	0	0	0	0
T1190	T2-05 DO YOU OPERATE LASER SYSTEMS	0	0	2	2	0	0	0	0	0	0	0
T1191	T2-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF LASER SYSTEMS	0	0	2	2	0	0	0	0	0	0	0
T1192	T2-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	2	2	0	0	0	0	0	0	0
T1193	T2-08 DO YOU TROUBLESHOOT TO COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	0	0	0	0	0	0	0
T1194	T2-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	2	2	0	0	0	0	0	0	0
T1195	T2-10 DO YOU REMOVE OR REPLACE COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	0	0	0	0	0	0	0
T1196	T2-11 DO YOU USE OR REFER TO ANGSTROMS (A)	0	0	2	2	0	0	0	0	0	0	0
T1197	T2-12 DO YOU USE OR REFER TO ELECTRON ENERGY LEVELS	0	0	3	4	0	0	0	0	0	0	0
T1198	T2-13 DO YOU USE OR REFER TO GROUND STATE	0	0	3	4	0	0	0	0	0	0	0
T1199	T2-14 DO YOU USE OR REFER TO EXCITED STATE	0	0	3	4	0	0	0	0	0	0	0
T1200	T2-15 DO YOU USE OR REFER TO PACKET OF RADIATION	0	0	2	2	0	0	0	0	0	0	0
T1201	T2-16 DO YOU USE OR REFER TO PHOTONS	0	0	3	4	0	0	0	0	0	0	0
T1202	T2-17 DO YOU USE OR REFER TO SPONTANEOUS EMISSION	0	0	5	7	0	3	0	0	0	0	0
T1203	T2-18 DO YOU USE OR REFER TO STIMULATED EMISSION	0	0	3	4	0	0	0	0	0	0	0
T1204	T2-19 DO YOU USE OR REFER TO COHERENCE OR INCOHERENCE	0	0	3	4	0	0	0	0	0	0	0
T1205	T2-20 DO YOU USE OR REFER TO INVERSION LEVEL	0	0	0	0	0	0	0	0	0	0	0
T1206	T2-21 DO YOU USE OR REFER TO MONOCHROMATIC	0	0	3	4	0	0	0	0	0	0	0
T1207	T2-22 DO YOU WORK WITH ACTIVE MATERIALS	0	0	0	0	0	0	0	0	0	0	0
T1208	T2-23 DO YOU WORK WITH PUMPING SOURCES	0	0	0	0	0	0	0	0	0	0	0
T1209	T2-24 DO YOU WORK WITH FULL SILVERED (100% REFLECTIVE) MIRRORS	0	0	0	0	0	0	0	0	0	0	0

LASERS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
T1210	T2-25 DO YOU WORK WITH HALF SILVERED (92% REFLECTIVE) MIRRORS	0	0	0	0	0	0	0	0	0	0	0	
T1211	T2-26 DO YOU WORK WITH HELICAL FLASHTUBES	0	0	0	0	0	0	0	0	0	0	0	
T1212	T2-27 DO YOU WORK WITH RUBY	0	0	0	0	0	0	0	0	0	0	0	
T1213	T2-28 DO YOU WORK WITH HELIUM-NEON	0	0	0	0	0	0	0	0	0	0	0	
T1214	T2-29 DO YOU WORK WITH HELIUM-XENON	0	0	0	0	0	0	0	0	0	0	0	
T1215	T2-30 DO YOU WORK WITH XENON	0	0	0	0	0	0	0	0	0	0	0	
T1216	T2-31 DO YOU WORK WITH CESIUM-HELIUM	0	0	0	0	0	0	0	0	0	0	0	
T1217	T2-32 DO YOU WORK WITH ARGON	0	0	0	0	0	0	0	0	0	0	0	
T1218	T2-33 DO YOU WORK WITH NEODYMIUM IN GLASS	0	0	0	0	0	0	0	0	0	0	0	
T1219	T2-34 DO YOU WORK WITH GALLIUM ARSENIDE	0	0	0	0	0	0	0	0	0	0	0	
T1220	T3-01 IN YOUR PRESENT JOB DO YOU WORK WITH DISPLAY TUBES, SUCH AS DIRECT VIEW STORAGE (DVST) OR MULTIPLE MODE STORAGE TUBES (MMST)	83	85	77	73	88	73	90	100	83	88	0	
T1221	T3-02 DO YOU INSPECT DVST OR MMST	67	77	62	53	88	54	80	100	67	71	0	DISPLAY TUBES
T1222	T3-03 DO YOU CLEAN DVST OR MMST	42	38	41	40	44	38	40	40	50	53	0	
T1223	T3-04 DO YOU ADJUST OR CALIBRATE DVST OR MMST	58	38	39	38	44	32	60	20	78	82	0	
T1224	T3-05 DO YOU OPERATE SYSTEMS THAT CONTAIN DVST OR MMST	75	85	77	73	88	73	90	100	83	88	0	
T1225	T3-06 DO YOU TROUBLESHOOT DVST OR MMST CIRCUITS	83	54	61	56	75	54	90	60	67	71	0	
T1226	T3-07 DO YOU REMOVE OR REPLACE DVST OR MMST TUBES FROM MAJOR ASSEMBLIES OR UNITS	75	96	94	38	63	38	60	60	67	71	0	
T1227	T3-08 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF DVST	42	31	48	42	63	41	50	60	22	29	0	
T1228	T3-09 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF MMST	0	0	13	16	6	16	10	0	6	6	0	
T1229	T3-10 DO YOU PERFORM TASKS ON FLOOD GUNS	50	15	30	31	25	27	30	0	22	24	0	
T1230	T3-11 DO YOU PERFORM TASKS ON WRITE GUNS	50	23	31	31	31	27	30	20	28	29	0	
T1231	T3-12 DO YOU PERFORM TASKS ON ATTACK GUNS	33	8	18	22	6	19	10	0	11	12	0	
T1232	T3-13 DO YOU PERFORM TASKS ON ERASE GUNS	42	15	30	29	31	24	40	20	28	29	0	
T1233	T3-14 DO YOU PERFORM TASKS ON STORAGE GRIDS	33	8	30	29	31	24	40	20	28	29	0	
U1234	U1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY PROGRAMMING TASKS	8	0	5	9	6	5	10	0	22	24	0	
U1235	U1-02 DO YOU USE OR REFER TO DECIMAL SYSTEMS	8	0	3	9	0	5	0	0	6	6	0	
U1236	U1-03 DO YOU USE OR REFER TO PROGRAMS	8	0	5	9	6	5	10	0	22	24	0	PROGRAMMING
U1237	U1-04 DO YOU USE OR REFER TO HEXIDECIMAL SYSTEMS	8	0	3	9	0	5	0	0	6	6	0	
U1238	U1-05 DO YOU USE OR REFER TO 8-4-2-1 SYSTEMS	8	0	3	9	0	5	0	0	17	18	0	
U1239	U1-06 DO YOU USE OR REFER TO FOUR SYSTEMS	8	0	3	9	0	3	0	0	0	0	0	
U1240	U1-07 DO YOU USE OR REFER TO BINARY SYSTEMS	8	0	5	7	0	5	0	0	17	18	0	
U1241	U1-08 DO YOU USE OR REFER TO TIME-SHARING	8	0	5	9	6	5	10	0	11	12	0	
U1242	U1-09 DO YOU USE OR REFER TO DATA WORDS	8	0	5	7	0	5	0	0	17	18	0	
U1243	U1-10 DO YOU USE OR REFER TO ADDRESS WORDS	8	0	7	7	6	5	10	0	17	18	0	
U1244	U1-11 DO YOU USE OR REFER TO ADDRESS/SUBADDRESS	8	0	5	7	0	5	0	0	11	12	0	
U1245	U1-12 DO YOU USE OR REFER TO STEERING/INFORMATION	8	0	3	9	0	3	0	0	11	12	0	
U1246	U1-13 DO YOU USE OR REFER TO INFORMATION WORDS	8	0	3	9	0	3	0	0	17	18	0	
U1247	U1-14 DO YOU PERFORM TASKS ON SINGLE LEVEL PROGRAMMING	8	0	3	9	0	5	0	0	6	6	0	
U1248	U1-15 DO YOU PERFORM TASKS ON MULTI-LEVEL PROGRAMMING	8	0	2	2	0	3	0	0	11	12	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 226	SPC 227	SPC 228	SPC 229	SPC 230	SPC 231	SPC 232	SPC 233	SPC 234	SPC 235	SPC 236	
U1249	U1-16 DO YOU PERFORM TASKS ON INPUT DEVICES	8	0	3	4	0	3	0	0	22	24	0	
U1250	U1-17 DO YOU PERFORM TASKS ON STORAGE DEVICES	8	0	3	4	0	5	0	0	22	24	0	
U1251	U1-18 DO YOU PERFORM TASKS ON ARITHMETIC SECTIONS	8	0	3	4	0	3	0	0	22	24	0	
U1252	U1-19 DO YOU PERFORM TASKS ON CONTROL SECTIONS	8	0	3	4	0	3	0	0	22	24	0	
U1253	U1-20 DO YOU PERFORM TASKS ON OUTPUT DEVICES	8	0	3	4	0	3	0	0	17	18	0	
U1254	U1-21 DO YOU PERFORM TASKS ON POWER SUPPLIES	8	0	3	4	0	3	0	0	28	29	0	
U1255	U2-01 DO YOU USE DECIBELS TO EXPRESS AMPLIFICATION AND ATTENUATION	33	0	38	38	38	27	20	60	28	29	100	DB AND POWER RATIOS
U1256	U2-02 DO YOU USE LOGARITHMS TO COMPUTE OUTPUT POWER IN DECIBELS	0	0	5	7	0	3	0	0	11	6	100	
U1257	U2-03 DO YOU USE LOGARITHMS TO COMPUTE ATTENUATION IN DECIBELS	0	0	5	7	0	3	0	0	11	6	100	
U1258	U2-04 DUMMY TASK TO IDENTIFY INCUMBENTS WHO PERFORMED NO TASKS	0	8	2	2	0	3	0	0	0	0	0	


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AD-A052 132 AIR FORCE OCCUPATIONAL MEASUREMENT CENTER LACKLAND A--ETC F/G 5/9
WEAPONS CONTROL SYSTEMS CAREER LADDER, AFSC 321X2.(U)
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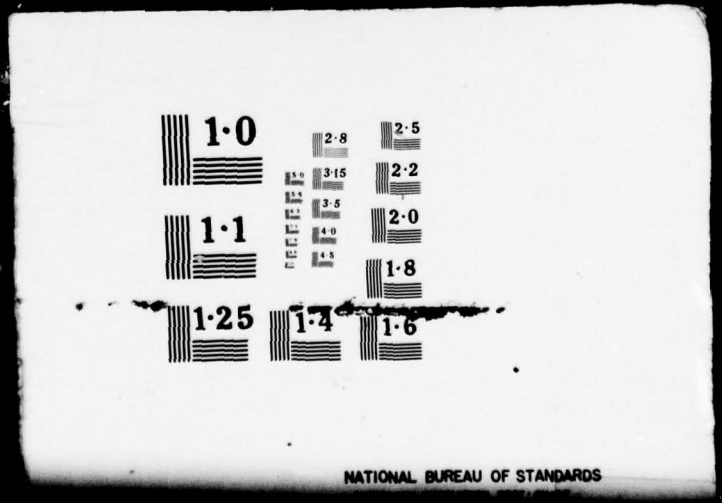

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This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Weapons Control Systems personnel (AFSC 321X2).

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